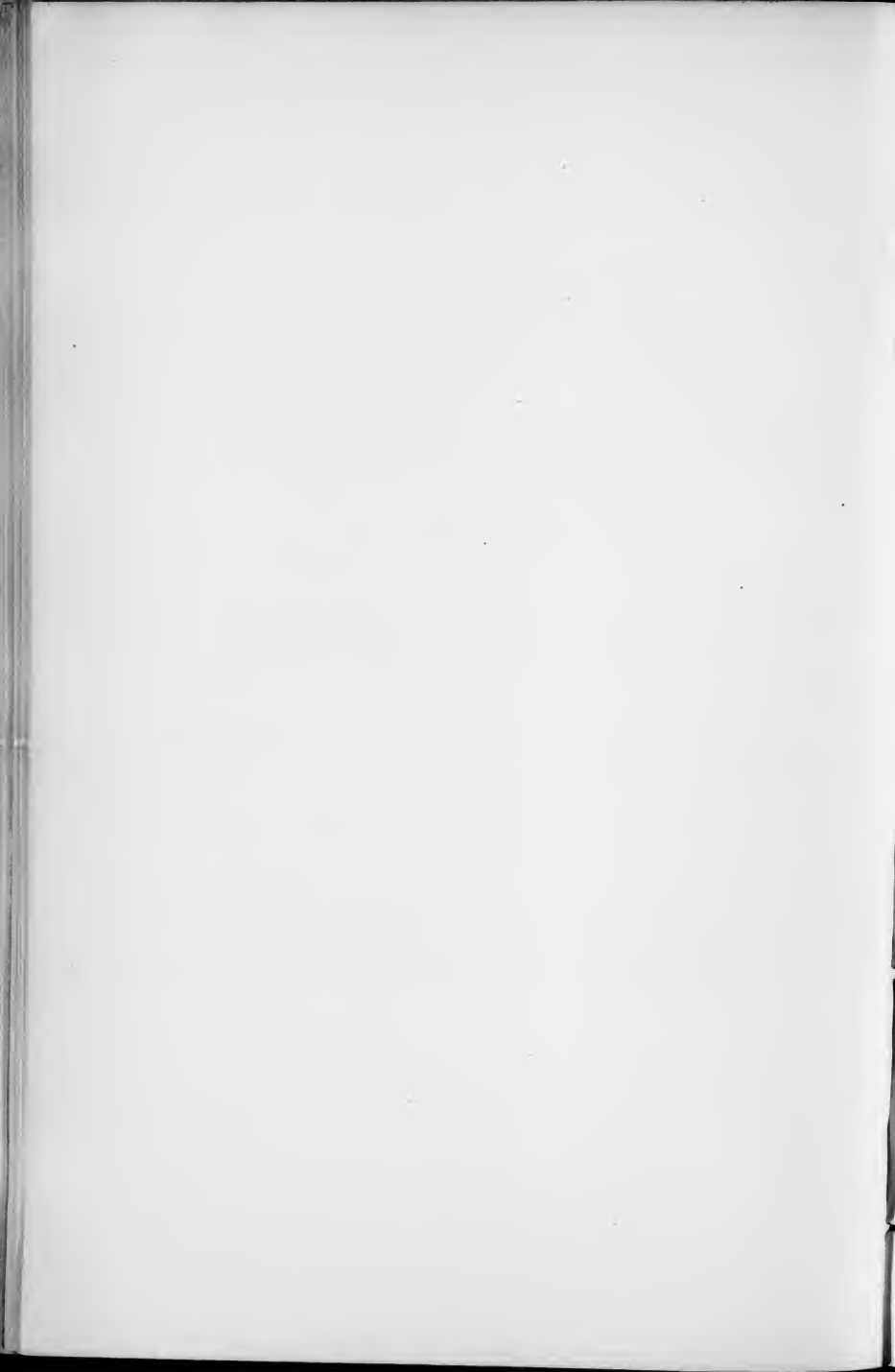




REPORT
OF THE
HEALTH OFFICER
TO THE
COMMISSIONERS OF THE DISTRICT OF COLUMBIA
FOR THE
YEAR ENDED JUNE 30, 1896.



REPORT OF THE HEALTH OFFICER.

HEALTH DEPARTMENT, DISTRICT OF COLUMBIA, Washington, June 30, 1896.

GENTLEMEN: In compliance with the provisions of law, I have the honor to submit the following statement of the work of the health department during the fiscal year ended June 30, 1896, being the twenty-fifth annual report of the department, and the seventeenth since the date of its present organization.

STATEMENT OF VITAL STATISTICS.

The deaths in the District of Columbia during the year ended June 30, 1896, numbered 5,904. Of these 1,810 were white males, 1,492 white females, 1,290 colored males, and 1,312 colored females. The annual death rate for the total population was, therefore, 21.43; for the whites 17.61 and for the colored 29.48. These figures are based upon a population of 275,500 of which 187,600 were white and 87,900 colored, estimated from the police census of December, 1894.

Arranged by classes the deaths were distributed as follows:

Cause of death.	1896.	1895.	Increase.	Decrease.
Zymotic.....	1,247	1,036	211	.....
Constitutional.....	1,201	1,172	29	.....
Local.....	2,691	2,617	74	.....
Developmental.....	531	492	39	.....
Violence.....	234	248	.....	14
Total.....	5,904	5,565	353	14

A statement of the relation between each class and the total mortality, and of the annual death rate for each class, is given in Table A:

Deaths by classes, arranged by sex and color, with percentages and annual death rates, for the years 1896 and 1895.

TABLE A.—YEAR ENDED JUNE 30, 1896.

Cause of death.	Deaths.							Percentages to total deaths.				Annual death rate.		
	White.		Colored.		White.	Colored.	Total.	White.		Colored.		White.	Colored.	Total.
	M.	F.	M.	F.				M.	F.					
Zymotic	381	312	292	262	693	554	1,247	21.05	20.92	22.64	19.97	3.69	6.30	4.53
Constitutional	295	323	273	310	618	583	1,201	16.30	21.63	21.16	23.63	3.30	6.63	4.36
Local	879	668	568	576	1,547	1,442	2,691	48.56	44.78	44.03	43.90	8.25	13.01	9.77
Developmental	130	153	101	147	283	248	531	7.18	10.26	7.83	11.20	1.51	2.71	1.92
Violence	125	36	56	17	161	73	234	6.91	2.41	4.34	1.30	.86	.83	.85
Total	1,810	1,492	1,290	1,312	3,302	2,602	5,904	100	100	100	100	17.61	29.48	21.43

Deaths by classes, arranged by sex and color, etc.—Continued.

TABLE B.—YEAR ENDED JUNE 30, 1895.

Cause of death.	Deaths.						Percentages to total deaths.				Annual death rate.		
	White.		Colored.		White.	Colored.	Total.		White.	Colored.	White.	Colored.	Total.
	M.	F.	M.	F.			M.	F.					
Zymotic	304	277	220	235	581	455	1,036	17.73	19.81	18.52	3.16	5.23	3.83
Constitutional	305	298	277	292	603	569	1,172	17.78	21.29	23.32	3.29	6.54	4.33
Local	865	629	545	578	1,494	1,232	2,617	50.43	44.97	45.87	8.14	12.91	9.68
Developmental	120	153	95	126	273	221	494	7	10.93	8	1.49	2.54	1.83
Violence	121	42	51	32	163	83	246	7.06	3	4.29	.89	.96	.90
Total	1,715	1,399	1,188	1,263	3,114	2,451	5,565	100	100	100	16.97	28.18	20.57

ZYMOTIC DISEASES.

The deaths in this class were 1,247, being 21.12 per cent of the total mortality. Of these, 693 were white, or 3.70 per 1,000 whites, and 554 colored, or 6.30 per 1,000 colored. Of the whole mortality in this class, 59 per cent occurred among children under 5 years of age, and 76 per cent of this among children in their first year.

The principal causes of deaths in this class were: Measles, 70 deaths (31 white and 39 colored); diphtheria, 75 deaths (66 white and 9 colored); typhoid fever, 228 deaths (138 white and 90 colored); malarial fever, 84 deaths (41 white and 43 colored); la grippe (epidemic influenza), 53 deaths (26 white and 27 colored); diarrheal diseases, 468 deaths (237 white and 231 colored), and scarlet fever, 13 deaths (10 white and 3 colored).

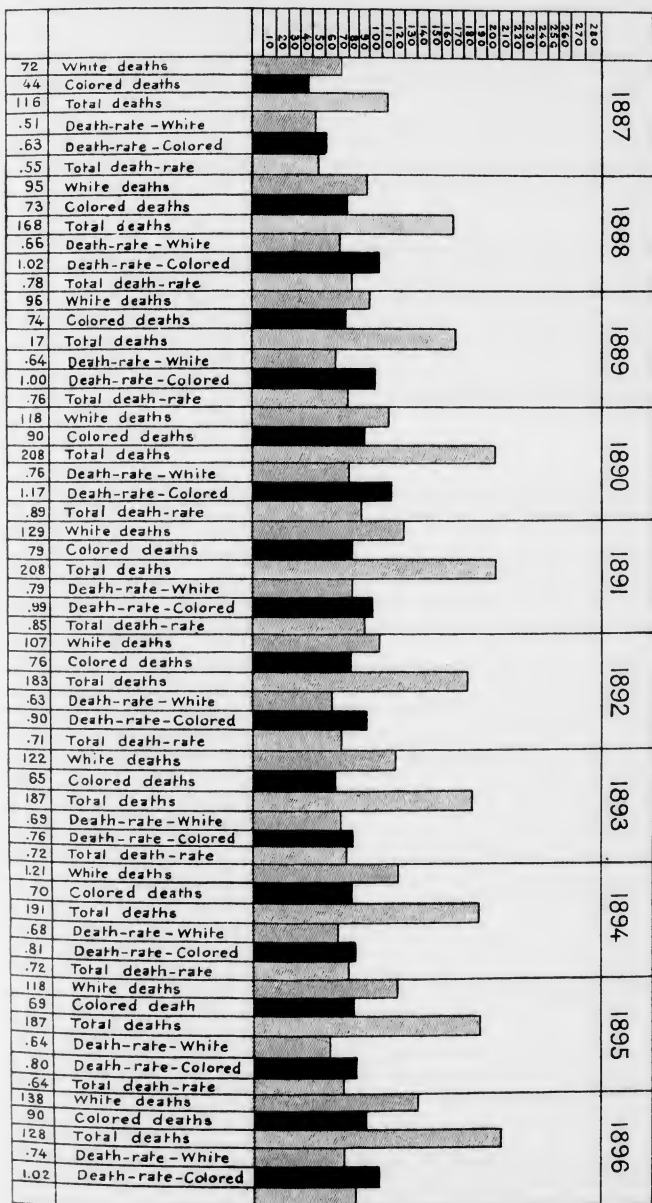
Of the 228 deaths from typhoid fever, 194 occurred in the first six months of the year, 99 of them in the months of October, November, and December. The prevalence of this disease caused a special investigation to be made with a view to determining the cause. The result of this investigation was published in the annual report of this department for 1895.

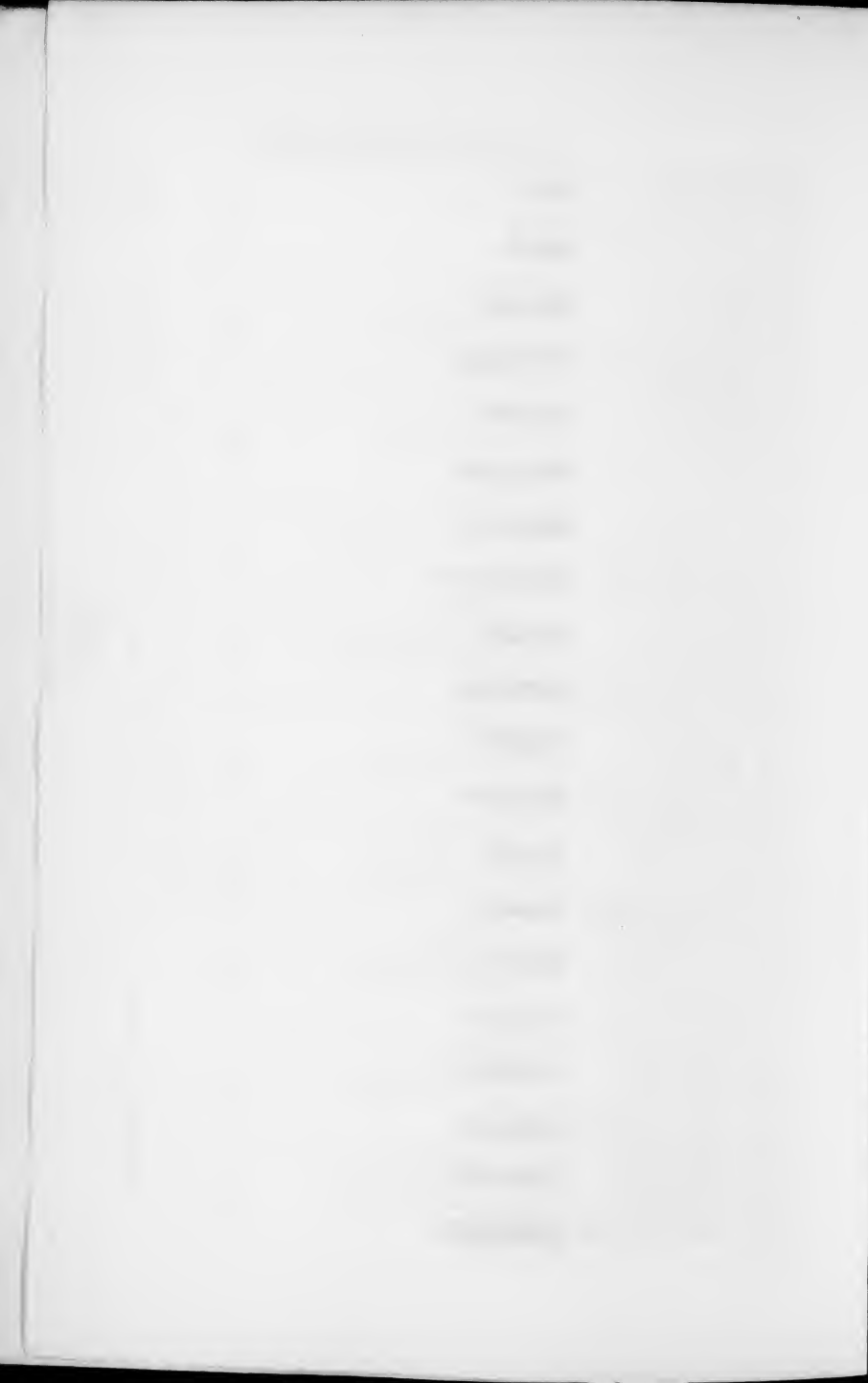
The following table shows the relative prevalence of typhoid fever in the District of Columbia at various periods during the past ten years:

Deaths from typhoid fever during past ten years.

Year.	White.		Colored.		Total.	Death rates per 1,000.		
	Males.	Females.	Males.	Females.		White.	Colored.	Total.
1887	32	40	24	20	116	0.51	0.63	0.55
1888	47	48	37	36	168	.66	1.02	.78
1889	53	43	41	33	170	.64	1	.76
1890	66	52	43	47	208	.76	1.17	.89
1891	64	65	40	39	208	.79	.99	.85
1892	70	37	39	37	183	.63	.90	.71
1893	82	40	36	29	187	.69	.76	.72
1894	76	45	29	41	191	.68	.81	.72
1895	62	56	33	36	187	.64	.80	.69
1896	78	60	45	45	228	.74	1.02	.83

Chart Showing the number of deaths from Typhoid Fever in the District of Columbia by fiscal years from 1887 to 1896 inclusive.





CONSTITUTIONAL DISEASES.

The deaths in this class were 1,201, of which 977 were tubercular and 224 were diathetic in type; 618 were white and 583 colored. This group formed 20.34 per cent of the total mortality. Of the fatal cases of diathetic diseases 155 were from cancers (not including cases of death from sarcomata). Of the cancerous cases white males contributed 31, white females 84, colored males 2, and colored females 38. The principal organs affected were the uterus 44, stomach 35, breast 22, and liver 20.

There were 977 deaths from tubercular diseases, 463 white and 514 colored. The principal disease in this class was pulmonary tuberculosis, causing 705 deaths. Last year these numbered 671. The increase is, however, only apparent, since a material part of those dying from tubercular maladies were heretofore classed simply as "tuberculosis" instead of as "pulmonary tuberculosis" as at present. Of those dying of this malady 335 were white and 370 colored, forming a percentage of 10.14 and 10.22 of the total mortality of each race respectively, and approximately 12 per cent of the total mortality. The death rate of the whites was 1.79 and that of the colored 4.21.

LOCAL DISEASES.

This class embraces eight subclasses or orders. The mortality therefrom amounted to 2,961, equal to 45.58 per cent of the total deaths from all causes.

Out of a total of 697 deaths from diseases of the nervous system, 417 were of an acute type; 436 were white, death rate 2.32, and 261 colored, death rate 2.98. Apoplexy (cerebral hemorrhage) caused 209 deaths, cerebral and cerebro-spinal meningitis 91, organic brain disease 53, and convulsions 96.

Diseases of the circulatory organs caused 424 deaths; 254 were white, death rate 1.35, and 170 colored, death rate 1.93. Morbid conditions of the cardiac valves caused 293 deaths, or 69 per cent of all in this class.

Deaths from diseases of the respiratory organs (exclusive of pulmonary tuberculosis) amounted to 863 (413 white, death rate 2.20, and 450 colored, death rate 5.12). Of these, 757 were from acute attacks, of which 500 were from pneumonia (228 white, death rate 1.21, and 272 colored, death rate 3.09); bronchitis 147 (62 white, death rate 0.33, and 85 colored, death rate 0.97), and pulmonary congestion 110 (54 white, death rate 0.28, and 56 colored, death rate 0.64). The months of January, February, and March are periods of the greatest prevalence of these maladies. Children under 5 years of age formed about 46 per cent of the total mortality from lung affections.

The deaths due to diseases of the digestive organs numbered 387 (237 white, death rate 1.26; and 150 colored, death rate 1.71), and composed 6.56 per cent of the total mortality. Gastro-enteritis caused 61 deaths, enteritis 40, gastritis 31, cirrhosis of the liver 26, and gastric and enteric catarrhs 37.

Morbid conditions of the urinary organs caused 250 fatal cases (167 white, death rate 0.89, and 83 colored, death rate 0.94); of these, 197 were from nephritis and Bright's disease of the kidneys (112 white, death rate 0.60, and 67 colored, death rate 0.74); from cystitis 20, and enlarged prostate 15.

From diseases of the generative organs 33 deaths ensued, 18 white and 15 colored. Of these, 17 were due to ovarian tumors and fibroids of the uterus, 7 to salpingitis and pyo-salpinx, and 8 from ovarian cysts.

Of diseases of the osseous and locomotory systems there were 21 deaths, mainly from gangrenes and osseous necroses. From integumentary diseases 16 deaths ensued, 6 of which were from sarcomatous formations.

INFANT MORTALITY.

Among children under 5 years old 2,094 deaths occurred, of which 972 were white and 1,122 colored. Of this number, 1,524 were under 1 year old. Thus 35.5 per cent of all who died were under 5 years old, and of these over 72 per cent were in the first year of life.

The principal causes of this mortality were diarrheal affections, 409 deaths (200 white, death rate 1.29, and 209 colored, death rate 2.61); marasmus 123 deaths (71 white, death rate 0.38, and 52 colored, death rate 0.61); pulmonary tuberculosis and tuberculosis 64 (17 white, death rate 0.09, and 47 colored, death rate 0.53); acute lung diseases 400 (123 white, death rate 0.66, and 277 colored, death rate 3.15), and developmental complications 265 (135 white, death rate 0.72, and 130 colored, death rate 1.48), of which 127 were from premature birth.

DEVELOPMENTAL DISEASES.

This class is divided into four orders, according as the disease is dependent upon childhood, puerperal conditions, old age, or malnutrition. In it there was a mortality of 531. Of these 283 were white, death rate 1.51, and 248 colored, death rate 2.82. The deaths in this class among children were 265 (135 white, death rate 0.72, and 130 colored, death rate 1.48), mainly due to premature birth and congenital debility. From the two causes last named there were 195 deaths, the white numbering 97, death rate 0.51, and colored 98, death rate 1.11. There were 11 cases of open foramen ovale and 8 of umbilical hemorrhage.

Diseases of women caused 55 deaths, 30 white and 25 colored, giving death rates of 0.17 and 0.29, respectively. This mortality was almost wholly due to conditions incident to childbirth, 10 being from puerperal convulsions and 16 from puerperal septicæmia and peritonitis.

Old age caused the death of 205 persons (113 white, death rate 0.60, and 92 colored, death rate 1.04). Of this number 10 were affected with senile gangrene.

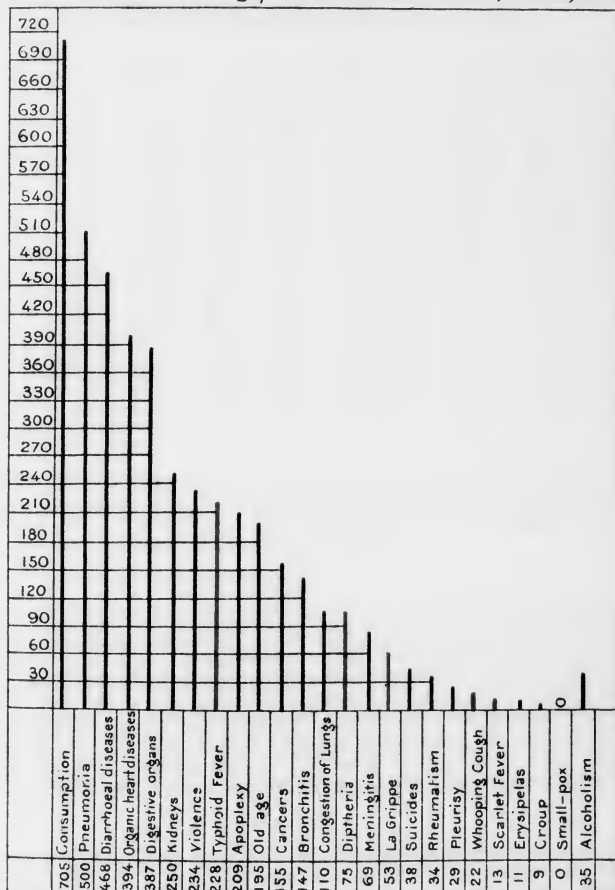
VIOLENCE.

There occurred 234 deaths by violence in the District of Columbia during the year, 181 of which were white and 53 colored. The suicides numbered in all 38, death rate 0.14, of which those by pistol shot were 14, by poison 10, drowning 6, incised wound of the throat 4, inhalation of gas 2, and strangulation 2. Of these suicides 35 were white, death rate 0.17, and 3 colored, death rate 0.04—31 males, 7 females.

Of accidental deaths there were 178, of homicides 14, and hanging by judicial execution 4.

The principal causes of the accidental deaths were: Drowning 24, falls 38, steam railway accidents 17, street car accidents 6, burns and scalds 15, and inhalation of illuminating gas 8.

Chart Diagram showing Mortality from some of the principal causes of death during year ended June 30, 1896, in D. C.



————— Indicates deaths from Contagious Diseases.
 ||||| " " " Ordinary "
 ||||| " " " Influenza



DEATH RATES FOR TWENTY-ONE YEARS.

The following table shows the variations in the death rates during the past twenty-one years:

TABLE C (REVISED).—*Showing population, deaths, and death rates for the twenty-one years ended June 30, 1896, based upon results of police censuses.*

Year.	Population.			Deaths.			Death rates.		
	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored.	Total.
1876	106,741	50,859	157,600	2,086	2,074	4,160	19.54	40.78	26.40
1877	109,505	52,870	162,375	2,187	2,021	4,208	19.97	38.22	25.91
1878	112,340	54,960	167,300	2,166	2,065	4,231	19.28	37.57	25.29
1879	115,247	57,130	172,377	2,196	2,113	4,309	19.05	36.90	24.99
1880	118,236	59,402	177,638	2,085	2,121	4,206	17.63	35.71	23.68
1881	121,300	61,760	183,060	2,205	1,931	4,136	18.18	31.27	22.59
1882	124,441	64,212	188,653	2,353	2,218	4,571	18.91	34.54	24.23
1883	126,300	65,680	191,980	2,270	2,016	4,286	17.97	30.69	22.33
1884	131,820	64,670	196,490	2,576	2,236	4,814	19.54	34.61	24.50
1885	134,770	66,340	201,110	2,610	2,388	4,998	19.37	35.97	24.85
1886	137,790	68,050	205,840	2,442	2,232	4,674	17.72	32.80	22.71
1887	140,880	69,800	210,680	2,484	2,181	4,665	17.63	31.25	22.14
1888	144,030	71,600	215,630	2,778	2,262	5,040	19.29	31.59	23.37
1889	148,870	73,960	222,830	2,713	2,439	5,152	18.22	32.93	23.12
1890	155,550	76,910	232,460	2,934	2,630	5,564	18.86	34.20	23.94
1891	162,540	79,980	242,520	3,106	2,614	5,720	19.11	32.68	23.59
1892	169,840	83,170	253,010	3,442	2,656	6,098	20.27	31.93	24.10
1893	175,550	85,250	260,800	3,677	2,775	6,452	20.95	32.55	24.74
1894	179,485	86,115	265,600	3,329	2,710	6,039	18.55	31.47	22.73
1895	183,516	86,998	270,514	3,114	2,451	5,565	16.97	28.18	20.57
1896	187,600	87,900	275,500	3,302	2,602	5,904	17.61	29.54	21.43
Totals and means	2,986,351	1,467,616	4,453,967	56,055	48,737	104,792	18.75	33.21	23.53

The death rate during the year just ended shows a slight increase over that of the preceding, but remains below the average for the past twenty-one years. There has been a decrease in the average age at death, as shown in Table VIII in the Appendix.

BIRTHS.

Returns of 4,706 births were received and recorded during the year, while last year they numbered 4,794, and the average of the last six years 4,548. Of the births, 2,786 were white and 1,920 colored. There were 617 illegitimate births (white 100 and colored 517). Last year these numbered 624 (104 white and 520 colored). Physicians certified to 2,361 and midwives to 2,345 of the births reported. Of the white, 1,650 were attended by physicians and 1,136 by midwives. Of the colored, physicians were in attendance in 711 cases and midwives in 1,209. Approximately 5,000 births have not been reported, as required by law.

STILLBIRTHS.

The dead-born children reported numbered 520 (181 white and 339 colored), of whom 325 were legitimate and 195 illegitimate. Of the whole number, 358 occurred in the seventh, eighth, and ninth months of utero-gestation, and 3 were reported as proceeding to the tenth month. Physicians certified to 401 cases and the coroner to 119. The greater proportion of these latter were found by the police in out-of-the-way places and buried in potters field at the public expense.

The principal reported causes of these stillbirths were: Falls by the mother, 25; difficult labor, 20; ill health of mother, 14; injury to mother, 13; prolapse of the cord, 11, and placenta previa, 10. Of all the returns, 330 failed to state the cause of the stillbirth.

MARRIAGES.

Of marriages, 2,237 returns only were received and recorded, 1,488 of which were of whites and 749 colored, although according to the records of the clerk of the court there were 3,168 marriage licenses issued. The returns last year numbered 2,391. For the last six years they have averaged 1,346 per annum.

The law in relation to marriages enacted at the last session of Congress made no change in the requirement as to making returns to the health officer by the officiating clergyman or official. It should be better understood by the clergy that this duty is due not only to the parties married, but to their descendants and legal representatives. The marriage records of the health department now contain the official returns of over 25,000 marriages in the District of Columbia. Transcripts of these records to be used as evidence before the court and governmental departments are constantly called for.

RECORDS.

The registers of the health department now contain the records of over 110,000 deaths, 88,000 births, and 25,000 marriages. These records consist of the original certificates, serially numbered and bound in volumes of 250 each, and of registers containing duplicates of the certificates in folio volumes bearing numbers corresponding to the serial numbers on the original certificates. These records begin with the organization of the health department, on August 1, 1874, and continue without interruption down to the present time.

During the past year 1,074 applications have been received for transcripts from these records. Such transcripts are by law *prima facie* evidence of the facts contained therein. The uses for which they are desired are variously stated upon the applications as "for legal purposes," "to complete evidence in pension case," "for insurance," etc. In most instances the transcript is desired for the purpose of securing for the applicant certain property more or less valuable. As it is purely for the purpose of private gain, the government should be compensated for the labor involved in the issue of such transcripts. If it were required that a small fee be paid for such transcripts, it would prove a source of revenue to the government, and so help to pay the cost of keeping the records and issuing the transcripts, and I would respectfully recommend, therefore, that steps be taken to establish a system of fees for transcripts from the records of the health department.

OFFICIAL REGISTERS.

Under the act of June 3, 1896, regulating the practice of medicine in the District of Columbia, the registers of physicians and midwives in use since 1874 were closed. The prospective passage of a law regulating the practice of medicine caused an unusually large registration of physicians during the latter part of this period. There were registered in all during the year 200 physicians. During the entire time that this register has been open there have been registered 1,940 physicians, of whom approximately 1,100 are believed to be living and located in the District at the present time.

There have been no additional midwives registered. The register of dentists authorized to practice in this District shows an increase of 29 during the twelve months, and the register of undertakers 1.

While the law provides that every undertaker doing business in the District of Columbia shall register his name at the health office, it fails to specify the qualifications necessary to entitle one to such registration. It is desirable that it should be amended so as to determine the qualifications of those wishing to engage in this business.

PRIVATE HOSPITALS.

Under the provisions of the clause in the appropriation act of March 2, 1895, requiring private hospitals to secure permits, applications have been received from five institutions. No written permits have, however, been issued because of the absence of any statement in the law of the conditions precedent to their issue and the absence of any penalty for conducting such establishments without permits. In order to prevent the maintenance of such institutions for improper purposes or in unsuitable locations or buildings it is desirable that the present law be so amended as to make it effective. I respectfully recommend, therefore, action for this purpose.

CEMETERIES.

There has been no change in the number of cemeteries. An effort to locate a burying ground in immediate proximity to a thickly settled community, depending for its water supply upon wells, led to vigorous protests on the part of those who believed their health endangered thereby and to the introduction in Congress of two laws regulating the location of cemeteries. The erection of a crematory for human remains in the midst of a business section of the city also demonstrated the need for a law relative to such establishments.

The removal of bodies from Graceland Cemetery required by an act prohibiting interments in Graceland Cemetery approved August 3, 1894, has been suspended because of lack of funds on the part of the Graceland Cemetery Association. The regulations governing the disinterment and removal of remains from this cemetery, made under authority of the act referred to, are printed at length in the Appendix.

The recommendation made in the last report of this department for the erection of a crematory on reservation 13 for the incineration of such human remains as are now interred in potter's field is renewed.

ANATOMICAL MATERIAL.

In order to carry out the provisions of an act for the promotion of anatomical science and to prevent the desecration of graves in the District of Columbia, approved February 26, 1895, the following rules have been formulated:

Each college entitled under the law to receive anatomical material will furnish the health department a list of the names and residences of bona fide students of medicine in attendance at such college on the 1st day of March and the 1st day of November each year, the term bona fide students being held to mean students in regular attendance, either paying for tuition or receiving it under scholarships.

Bodies for distribution will be divided into three classes: (1) Children, being held to mean the unutilized bodies of persons under 14 years of age (exclusive of stillbirths); (2) adults, being held to mean the unutilized bodies of persons over 14 years of age; (3) autopsy cases, being held to mean bodies which have been so mutilated, either

by post-mortem examinations or by violence, as to materially interfere with their use for anatomical purposes.

Bodies will be offered during the entire year to each college, so that at the expiration of the year each will have had the offer of its full quota, as allowed by section 1 of the act. Each of the classes, however, will be apportioned separately, so that one college will not receive an undue proportion of children or autopsy cases. If a body is offered to a college and refused it will be charged against the college to which it is offered.

Each body must be buried as soon as possible after its use. The burial must be made in each case by name.

Since the passage of the anatomical act cadavers have been offered for distribution and have been distributed as shown by the following table. It has been impossible to make distribution strictly in accordance with the number of students in each college in view of the fact that certain of the colleges receive such bodies during the entire year while others only receive them during the months in which the college is in session.

Distribution of cadavers.

[February 26, 1895, to June 30, 1896.]

From—		Good.	Post-mortem.
Emergency Hospital.....		1	.....
Freedmen's Hospital.....		14	8
Providence Hospital.....		12	.....
Washington Asylum.....		31	2
Total		58	10

To—	Average number of students.	Good.	Post-mortem.
Army Medical School.....	9 5	2	.....
Columbia University.....	155. 5	11	.....
Georgetown University.....	75	31	5
Howard University.....	119. 5	9	2
National University.....	41. 5	3	2
National Homeopathic Medical School.....	23	2	1
Total.....	424	58	10

a By an agreement between representatives of all medical schools Georgetown University received all bodies offered for distribution during the summer of 1895; hence the large number delivered to this institution in excess of its regular quota.

There has been, manifestly, a disinclination on the part of those having charge of some of the hospitals to deliver the bodies of inmates, as they are authorized by law to do, the result being that the supply of anatomical material has been too small to meet the requirements of the various colleges. If Washington is to become a center of medical education it will be necessary to take steps to require that all available material be delivered for use. I would respectfully recommend, therefore, that the law be so amended as to make it mandatory upon those having charge of the hospitals to deliver to the proper authorities such bodies as they are now authorized to so deliver if they be so inclined. The creation of an anatomical commission such as exists in Pennsylvania would materially aid in carrying into effect the provisions of the law.

RELIEF OF THE POOR.

The work done during the past year by the physicians to the poor, under the supervision of the health department, is shown in the following table:

TABLE D.—*The sick poor.*

Month.	Patients treated.	White.	Colored.	Visits.	Office consultations.	Cost of medicine furnished.
1895.						
July	1,307	572	735	2,121	223	\$249.20
August	1,253	591	662	2,088	218	265.35
September	1,378	704	674	2,085	308	283.50
October	1,599	878	721	2,779	224	282.25
November	1,021	501	520	1,395	145	206.80
December	956	442	514	1,809	133	231.40
1896.						
January	1,426	587	839	2,710	161	196.75
February	1,415	550	865	2,625	152	236.15
March	1,585	610	975	2,916	200	363.65
April	1,567	579	988	2,745	263	175.45
May	963	411	552	1,563	198	138.05
June	1,136	468	668	1,720	247	178.10
Total	15,606	6,893	8,713	26,556	2,472	2,806.65

TABLE E.—*The sick poor for thirteen years.*

Year.	Patients treated.	White.	Colored.	Visits made.	Office consultations.	Cost of medicine furnished.
1883	15,611	5,347	10,264	22,542	4,122	\$3,156.85
1884	16,121	5,022	11,099	22,633	5,088	2,900.10
1885	15,211	4,692	10,519	21,160	4,204	2,911.75
1886	16,901	5,430	11,471	21,824	5,659	3,862.75
1887	15,795	5,072	10,723	21,340	4,501	2,097.00
1888	15,352	4,745	10,607	21,722	3,934	3,607.00
1889	14,575	4,842	9,733	19,919	4,239	3,059.65
1890	16,576	5,619	10,957	22,547	4,410	3,352.25
1891	13,238	4,641	8,597	18,728	3,177	2,526.25
1892	12,637	4,338	8,299	16,746	2,997	2,503.08
1893	12,430	4,079	8,351	19,037	2,468	2,753.55
1894	16,109	6,112	9,997	26,210	3,356	3,636.36
1895	15,150	6,186	8,964	23,625	2,973	3,347.10
1896	15,606	6,893	8,713	26,556	2,472	2,806.65
Total	211,312	73,018	138,294	304,569	53,600	43,520.34

It is gratifying to note that the number of persons relieved annually through this service has remained practically the same during the past fourteen years, showing that pauperism has not been on the increase, or that more effectual work is being done by the various hospitals and dispensaries. There has been an absolute decrease in the number of colored patients, notwithstanding the very considerable increase in the colored population, showing a decrease in the number of dependent blacks. The number of white patients has slightly increased.

A further examination of the preceding table shows that the average cost per patient has been, for medical attendance, 46 cents; for medicine, etc., 18 cents, or a total average cost of 64 cents. In view, however, of the number of visits and office consultations required for each patient, the average amount received by each physician to the poor per visit or office consultation has been but 25 cents. However gratifying it may be to the public to see the small cost of the service, it may be

questioned whether justice is being done to the physicians engaged therein. Previous recommendations by this department for an increase in the pay of these officers has been met by the statement that their places were much in demand, and that a large number of physicians would be glad to do the work at the price now paid, a principle which is not applied to any other class of employees under the Government, and which is not properly applicable in the present instance. The recommendation, therefore, that the salary of each physician to the poor be increased to \$40 per month, and that each be provided with a telephone, is respectfully renewed. The annual salary of the physicians should be fixed by law so as to permit an annual leave of absence without loss of pay.

The terms of the first corps of physicians to the poor appointed under the limited tenure of office rule expired during the year, and the appointment of their successors has been made upon a civil-service basis. The rigid enforcement of the rule during a part of the year to make no reappointments did not, it is believed, result in an improvement of the service, as some of the employees who were thus forced to retire were doing very satisfactory work. Nor has the appointment of their successors, after examination, been altogether satisfactory in view of the difficulty of making the proper assignments of eligibles to the various districts into which the city is divided. With the establishment of a regularly organized civil-service examining board, this difficulty need not occur.

During the year the use of tablet triturates by physicians to the poor has been inaugurated with satisfactory results, both as to the convenience of the patient and economy of expenditure. The use of drugs in this form in no way restricts prescription by the physician of other forms of medication if, in his judgment, more satisfactory results can be produced thereby.

Many of the patients who come under the care of the physicians to the poor are quite as much in need of the services of a competent nurse as of those of a physician. Such nurses securing entrance to the homes of the poor under such circumstances might frequently be able to do much for the permanent betterment of this class by their practical demonstration of the advantages of cleanliness and good cooking, and the means of securing them. The system of district nursing has operated satisfactorily in other places and should be introduced in this city.

The health officer is, *ex officio*, one of the directors of the Central Dispensary and Emergency Hospital. This institution is a private corporation; the Government is represented in its management by two members of the board of directors, which consists of 31 persons, who are, with the exception of the two members referred to, elected annually by the contributing members. The health officer is also, *ex officio*, a member of the board of managers of the Associated Charities, also a private organization. The existence of these two institutions working side by side toward the same end, and yet not cooperating with each other, is suggestive. The Associated Charities, under its present organization, undertakes to investigate as to the character of applicants for charity; to determine whether their condition is such that they should properly be charges upon the community, and whether they are justly entitled to receive aid therefrom. It is not its aim to dispense alms directly except in cases of absolute necessity. The Central Dispensary and Emergency Hospital is organized for the purpose of rendering the necessary medical and surgical treatment in cases of emergency, or where the citizen is financially unable to provide such

treatment for himself or family. It is not provided with means of determining, otherwise than by the statement of the patient, whether he is justly entitled to assistance or not. It is, however, receiving from the Government annually a large sum, at present \$15,000, which is expended largely for the relief of persons the only evidence of whose destitution rests upon such a basis.

This institution is but a type of others, each judging the amount of work done by the number of patients treated, without any very scrupulous regard (at least so far as published reports show) of their degree of destitution. The Government has no proper control over the expenditure of the large amounts appropriated annually for the relief of the poor through such institutions. Unless the Associated Charities is to be recognized as the official agent of the Government to investigate all cases of those applying for relief, and to certify worthy cases to the proper institution for such relief, it is, in my judgment, desirable that there should be organized in connection with the District government a department or board of charities to supervise the work of the charitable institutions receiving Government aid. I am aware that such a suggestion has been made before, and venture at the present time to invite your attention to the importance of some definite action in reference thereto because of the result of the observation of the work of the organizations mentioned above, and of the medical relief of the poor through the 20 physicians employed for that purpose.

PERMITS TO ROPE OFF STREETS AND ALLEYS.

Under date of August 23, 1883, the following order was issued by the Commissioners:

That permits to prevent the passage of vehicles in neighborhoods where persons are so seriously ill as to make such a step necessary are confided to the health department under a limitation of three days, unless a longer period be granted by the Commissioners. But no principal public thoroughfare shall be so obstructed nor any street-car lines be interfered with. All such permits shall be notified to the major of police and the engineer commissioner.

Pursuant to the provisions of this order permits have been issued in 77 cases during the past fiscal year. The aggregate time covered by such permits was four hundred and twenty-eight days, the average time of each permit being, therefore, five and one-half days. These 77 permits were issued upon certificates furnished by 63 physicians, that it was necessary, to secure the proper recovery of the patient, that the street or alley should be closed. In four instances the same physician furnished certificates in three cases and in nine instances in two cases, the remainder having certified to but one case each. The longest period covered by a single permit was eighteen days, the shortest time being three days, the usual period for which a permit is issued in the first instance. It is interesting to note that in the fiscal year ended June 30, 1894, one street was roped off for one hundred and eighteen consecutive days on account of the illness of a single patient.

The following table shows data relative to such permits during the four preceding fiscal years:

TABLE F.—*Permits issued to rope off streets and alleys to cause temporary suspension of travel in consequence of serious illness, etc.*

Fiscal year.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total permits.	Total permit days.	Average time of each permit.	Total number of physicians certifying.
1893.....	10	14	8	6	6	4	1	6	3	4	9	11	82	427	5½	56
1894.....	11	12	8	11	4	4	5	4	6	4	5	12	86	860	10	62
1895.....	16	12	9	7	7	2	5	0	8	3	13	9	91	670	7¼	71
1896.....	9	13	15	3	4	2	3	1	1	7	7	12	77	428	5½	63
Total	46	51	40	27	21	12	14	11	18	18	34	44	336	2,385	7.00	252

The obstruction of streets and alleys in the manner indicated above is frequently a source of inconvenience to persons having business thereon, especially to those engaged in the delivery of ice, bread, milk, etc. It has been, therefore, the aim of this department to limit the issue of such permits to cases of actual necessity and to reduce the time in each case to the shortest period possible. It may be seriously questioned whether such permits are ever necessary. In many instances much can be done by those in charge of the patient to secure quiet by removing him or her to a room in the rear of the house. When this can not be done, it would seem that the method adopted in other cities might be successfully employed here, viz, spreading tan bark over the surface of the street immediately in front of the patient's residence. Circular letters were sent to various cities to ascertain the practice in reference to this matter. Replies have been received from New York City, Brooklyn, and Buffalo, N. Y.; St. Louis, Mo., and New Orleans, La., and in none of these places is permission granted to obstruct streets as is done in this city.

In some cases the permit has been asked for by the family of the patient apparently because a neighbor has had a similar permit, and when extensions of time are requested the same line of argument is often followed, viz, that Mr. —, around the corner, had the ropes up for five or ten days, so that the applicant must, therefore, be entitled to do likewise. Such applicants when referred to the attending physicians for the necessary certificates have uniformly been able to secure them, the physician complying, in some cases, with the request of the patient's family lest he should be compared unfavorably with the physician who attended Mr. —; and upon the presentation of any certificate to the health department it must be duly honored or the physician who issued it may be discredited before his patients. Some fixed rule must, therefore, govern the entire matter.

That the demand for the roping off of streets does not come from the medical profession is shown by the following resolution, adopted at a meeting of the Medical Association of the District of Columbia October 4, 1892:

Whereas it has been and still is the custom in the city of Washington to obstruct streets to travel where sickness exists, be it

Resolved, That the barricades to streets heretofore permitted in cases of sickness by the Commissioners of the District of Columbia be condemned by this association.

That a committee be appointed by the chairman of this association to wait upon the Commissioners, expressing to them the action of this body, and urging the adoption of means used in other large cities of the United States to secure quiet without cutting off travel.

I respectfully recommend, therefore, that the maximum time for obstructing the streets on account of sickness be reduced to thirty-six hours for any one patient in a single month; that if the use of the street after the expiration of that period is injurious to such patient, permission be granted to cover the same with tan bark or some similar material; and that the matter be regulated by law instead of simply tolerated by the sufferance of the public, as at present.

CHEMICAL LABORATORY.

During the year just ended there have been analyzed in the chemical laboratory connected with the health department 831 samples, as follows: 479 milk, 85 spirituous liquors, 242 water, and 25 miscellaneous.

Of the samples of milk collected at the Baltimore and Ohio depot 8.6 per cent and of those collected at the Baltimore and Potomac depot 3.5 per cent were below the legal standard, while of the samples collected in the city, while in the possession of dealers 20 per cent had been either skimmed or watered, or both. Of 30 cases taken into the police court for selling skimmed milk in violation of law, personal bonds were taken in 3, collateral forfeited in 3, fines imposed and collected in 15, while the remainder were for various reasons dismissed.

The analyses of spirituous liquors were undertaken chiefly at the instance of the excise board, which had caused samples to be collected and desired to have them analyzed as a guide to the issue of liquor licenses. While the amount of the different normal ingredients varied in the various samples analyzed for this purpose, there was no evidence of the presence of adulterants injurious to health, nor, in fact, of adulterants of any character, the cheaper grades showing merely carelessness of manufacture, whereby an excess of certain undesirable ingredients was retained. As these samples were taken at random, and represented, therefore, the average whisky and gin sold in the District, the report of the result of the analyses is printed at length in the appendix. While fusel oil can not be regarded as an adulterant, in view of its effects on the human system when taken in excess, I respectfully recommend legislation to fix the maximum amount allowable. Eight samples of liquors suspected of being intoxicating were analyzed for the police department and four for the prosecuting attorney.

Of the 242 samples of water analyzed 109 were from private wells, 122 from public wells, 6 from the Potomac River, 4 from cisterns, and 1 from the Aqueduct tunnel. Of the private wells 35 were condemned, 4 reported suspicious, and 11 recommended for cleaning. Of the public wells 14 were condemned, 2 reported suspicious, and 2 recommended for cleaning.

Of the 831 analyses in the laboratory 237 were undertaken at the instance of other departments. While it can not properly be considered as a part of the duty of the health department to make many of such analyses, they would have to be done by private chemists, at a very considerable cost to the Government, if not done in this way. There is no objection to their being so made if proper provision is made therefor by suitable appropriations; but when, as will be the case during next year, there is no appropriation whatsoever for such work, the running expenses of the chemical laboratory connected with the

health department being paid out of the contingent fund of that department, and when that fund is no larger than in former years when there has been an appropriation for the support of the chemical laboratory, the propriety of such work being undertaken by the health department may be questioned. I respectfully recommend, therefore, that the amount of the work for other departments of the District government be considered in determining the proper amount of the appropriation for the chemical laboratory of the health department.

In this connection I would urge also the establishment, in connection with this Department, of a bacteriological laboratory. The importance of such a laboratory in connection with the determination of the character of water can not be exaggerated. The chemical analysis indicates the possibility of harmful contamination; the bacteriological indicates whether such contamination has actually occurred. If this laboratory were of value only in connection with the analysis of water, this would be a sufficient reason for its creation; but when it is remembered that such equipment comes constantly into requisition in connection with the analysis of milk and other food products, and in the study of contagious diseases, no health department can be considered complete unless provided with such an adjunct.

INSPECTION SERVICE.

Included in the inspection service of this department are general sanitary inspection, food inspection, inspection of marine products, inspection of dairies and dairy products, and the supervision of the collection of garbage and dead animals. The force of inspectors engaged in the general sanitary inspection should be increased so as to allow a house-to-house inspection of the entire District each year. When such an inspection must be made as an emergency measure, as was the case in 1893, the results obtained are not satisfactory, owing to the impossibility of securing the services of inspectors who are familiar with the laws governing such matters and with the principles of sanitary science. An even moderately satisfactory supervision of the collection of garbage and dead animals has been possible for the first time during the past year, when the department has been able to employ two special inspectors for such work. No effort should be spared to secure an appropriation necessary to continue this service, if for no other reason than to insure that the taxpayers receive from the contractor the entire service for which they pay.

I must again urge the importance of the appointment of a chief inspector, who can be on duty constantly, outside of the office, to see that the regular inspectors are working at their official duties during the proper hours. It is difficult, in view of the character of the service upon which these men are engaged, to determine whether the amount of work shown by their daily reports represents all to which the Government is entitled or not, and, not being uniformed (which is not thought desirable), the opportunity afforded them for neglecting their duties during official hours is very great. This recommendation is not intended in any way to reflect upon the inspectors now in the service, but is to secure a more efficient oversight of the work of the department.

SANITARY INSPECTION SERVICE.

The following table shows the number and character of nuisances acted upon by this department during the past year, together with

a statement of the relative number of such nuisances during each year for the past nine years:

TABLE G.—Consolidated report of nuisances for the year ending June 30, 1896.

Nature of nuisance.	1895.						1896.						Total.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	
Alleys, filthy	16	15	36	36	40	29	5	5	9	18	20	13	242
Alleys needing repairs	1	2		1						1	1		6
Areas	4	3	3	4	2	1	2	1					20
Ashes	57	73	44	47	51	22	54	54	45	17	28	24	516
Cellars	16	5	8	7	5	2	6	7			7	1	61
Drainage surface	60	84	97	64	78	89	24	32	14	43	77	29	691
Garbage	34	29	45	21	19	17	9	13	26	80	8		301
Gutters	1	11	6	1					1	4	10	2	36
Hogpens	1	1	4	3		1			1		3		14
Houses, filthy	1	2	2	3	3	2		6		7	5	4	35
Houses, slaughter						1			1				2
Houses, no privy	6	6	4	13	1	2	2		1	2	3		40
Hydrants	5	2	19	1			2	1					30
Lots, filthy	18	18	5	26	27	53	12	46	25	54	59	31	374
Lots, stagnant water	2	3	2		2	2		6		60	5	24	106
Manure	38	23	13	24	28	13	8	6	14	6	9	9	191
Miscellaneous	198	307	173	123	193	132	96	98	87	110	150	112	1,779
Pipes, water	17	4	3	1			6	12	12	11	10	11	89
Privies, filthy	414	657	489	520	455	297	396	388	383	319	522	468	5,308
Privies, dilapidated	12	23	8	8	6		1	20			10	7	95
Privies, full	402	640	481	505	431	294	380	386	379	326	500	450	5,189
Privies, leaky boxes	143	143	120	102	86	41	32	27	36	33	91	119	973
Pumps	1			3									4
Roofs, leaky			1								3		4
Sewers	51	61	41	34	66	17	33	49	42	54	74	39	561
Sewers, connection	25	15	7	6	11	11	7	7	5	8	12	6	120
Stables	35	24	11	6	13	4	2	7	6	2	7	5	122
Stables, cow	4	4	2		5	5	1						21
Streets, filthy	4			1	1	24	3	1	1	4	4		43
Traps, sewer	15	20	17	8	7	1	1	2	7	9	10	8	105
Yards	118	133	98	113	113	56	106	88	107	111	161	84	1,288
Yards, cow		22				1							23
Yards, privy		2		1	1					2			6
Water-closets	65	68	53	66	114	33	60	56	43	49	57	50	714
Wharves				1	2							1	4
Total	1,764	2,400	1,792	1,749	1,760	1,152	1,248	1,318	1,245	1,330	1,855	1,503	19,116

TABLE H.—Consolidated report of nuisances for nine years ending June 30, 1896.

Nature of nuisance.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Total.
Alleys	199	166	200	235	345	350	221	424	248	2,388
Areas	7	24	18	21	27	37	34	32	20	220
Ashes					757	1,488	1,894	1,102	516	5,757
Cellars	80	179	141	141	154	151	135	132	64	1,177
Drainage	412	563	460	518	816	624	1,550	550	691	6,184
Gutters	42	17	21	72	19	46	86	49	36	388
Garbage	238	221	74	72	44	531	92	170	301	1,743
Hogpens	3	17	44	57	48	40	79	26	14	328
Houses, filthy	8	12	9	15	20	61	58	28	35	246
Houses unfit for habitation	4	21	11	11	51	180	132	27		437
Houses, no privy	17	34	32	21	35	39	30	51	40	299
Hydrants	67	101	123	156	92	80	120	114	30	883
Lots, filthy	51	116	167	147	192	547	250	194	374	3,038
Manure	579	629	676	599	523	192	109	236	191	3,734
Miscellaneous	1,631	2,792	2,627	2,296	2,484	3,170	4,327	2,619	1,779	23,725
Pumps			2	2	1	2	6	4		21
Pipes, water	127	84	75	144	209	251	325	319	89	1,623
Ponds, stagnant	46	90	70	116	220	143	48	17	106	856
Privies, filthy	5,907	6,227	5,444	4,904	3,252	2,934	2,264	5,201	5,308	41,441
Privies, full	5,830	6,148	5,316	4,739	3,176	3,289	2,233	4,372	5,189	40,292
Privies, leaky boxes	675	661	800	547	465	348	247	746	973	5,462
Privies, dilapidated	58	87	55	30	62	145	63	230	95	825
Roofs, leaky	3	9	38	12	17	37	85	21	4	226
Sewers	625	668	604	715	792	734	848	558	561	6,105

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TABLE H.—Consolidated report of nuisances for nine years, etc.—Continued.

Nature of nuisance.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	Total.
Sewers, house connection...	51	172	119	105	72	188	549	375	120	1,751
Slaughterhouses.....			5	7	9	2	7	5	2	37
Stables.....	184	148	282	221	221	151	256	223	143	1,829
Streets, filthy.....	2	1	12	3	7	30	17	33	43	148
Traps, sewer.....	66	67	49	58	75	37	113	223	105	793
Yards.....	1,726	1,826	1,786	1,637	1,931	2,816	3,333	2,240	1,288	18,583
Yards, cow.....	14	116	14	5	19	9	1	31	23	232
Vaults, privy.....	12	7	6	5	23	10	1	2	6	72
Water-closets.....	428	610	522	693	747	767	717	1,069	714	6,267
Wharves.....									4	4
Total.....	19,092	21,813	19,802	18,304	16,905	19,429	20,230	21,423	19,116	176,114

INSPECTION OF FOOD.

The amount of food condemned during the past year by the inspectors of this department is shown in Table I, while Table K shows the relative amount of such condemnations for the past nine years.

The enforcement by the Commissioner of Internal Revenue of the law regulating the sale of oleomargarine showed that that product was, in numerous instances, offered for sale as butter, and resulted in a number of convictions.

TABLE I.—Unwholesome food condemned during the year ending June 30, 1896.

Article.	1895.						1896.						Total.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	
Beef.....pounds.	3,300	2,871	2,480	2,648	2,944	1,870	1,770	1,233	1,577	5,850	3,590	3,721	33,854
Mutton.....do.	1,980	1,702	1,532	1,661	1,695	1,306	1,438	1,198	1,252	2,486	1,423	1,770	19,443
Veal.....do.	397	613	400	354	387	70	159	291	290	1,157	556	664	5,338
Pork.....do.	957	836	1,005	1,318	2,546	1,024	973	685	809	3,112	809	974	15,048
Bacon.....do.	174	309	717	195	120	100	10	10	309	10	98	2,042	98
Sausages.....do.	199	130	228	344	806	503	336	102	176	689	295	120	3,928
Vealison.....do.					180								189
Chickens.....do.	67	122	42	42	292	613	94	64	51	81	26	139	1,633
Turkeys.....do.				10	44	334	13	3	4	8			416
Ducks.....do.				6	57	53	23	4	2	6			151
Geese.....do.				9	4	3							20
Birds.....do.		9	248	155	247	132	100	42					1,195
Rabbits.....do.				66	729	748	256	37	7	255			1,836
Squirrels.....do.					60	96							156
Apples.....bushels.	524	774	354	33	44	2	5	5	7	5	34		230
Peaches.....do.	364	233	404	104	2							2	1,143
Pears.....do.	8	654	514	434	34								172
Plums.....do.	15	12	3										30
Bananas.....dozen.		600	3	4			6	52		4			669
Oranges.....do.					17		54	4	4				79
Lemons.....do.		8			4			10		4	4	3	37
Grapes.....pounds.	130	575	5,064	4,041	2,142	22	260						12,234
Berries.....quarts.	1,699	88				106		16	92	836	1,500	2,011	6,348
Cherries.....do.	136											17	153
Cantaloupes, number	3,613	15,159	1,997									19	20,788
Watermelons, number	663	2,022	440	123									3,248
Pineapples.....no.	109	20											129
Asparagus, bunches.	35								9	966	1,375	464	2,849
Beets.....bunches.	789	247	19	30	66		41	80	62	61	66	63	1,524
Carrots.....do.				30			11	11	14		17		83
Celery.....do.	9	8	172	413	289	1,292	362	449	16				3,010
Radishes.....do.	1,150				17			150	50	5,770	2,431	660	10,211
Rhubarb.....do.										114	570	104	805
Lettuce.....heads.	2,210	96	138	196	86		13	54	259	1,969	2,717	658	8,933
Cabbage.....do.	3,833	3,493	3,751	3,345	874	304	4,075	1,915	527	1,157	2,986	1,810	28,070
Cynilings.....no.	4,222	2,622	274	55	15		75						8,233
Eggplants.....no.	954	1,338	1,369	1,214	150	660							5,712
Cauliflower.....no.			20	308	818	220		80					1,446
Pumpkins.....no.				15			9	11					35
Corn.....dozens.	763	358	242	314									1,690
Cucumbers.....do.	958	39	79	31	44					42		778	1,971

TABLE I.—Unwholesome food condemned during the year, etc.—Continued.

Article.	1895.						1896.						Total.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	
Kale.....bushels.....				9	36	5	15	18	05	171	49	1	369
Spinach.....do.....					3				4	19	15		41
Parsnips.....do.....				1		1				2			4
Potatoes.....do.....	39	14½	24	22			35	55	19	9	39	59	320½
Pease.....do.....	57	1½	4					1	1	19	8½	35	203½
Beans.....do.....	113½	20½	22½	4	49½	39	2	4	10		16½	145	436
Turnips.....do.....	1	1½	2½	29	17	20	36	25	11	5	10½	5½	164½
Tomatoes.....do.....	103	193½	156½	105	2½		8						568½
Onions.....do.....	½	10					2	2		8			22½
Eggs.....dozens.....	527	433	737	113½	90	65	101	30		2	210	184	2,492½
Miscellaneous fruits and vegetables.....	188	235½	93	75	53	42	39	43	41	112	116	152½	1,190½

TABLE K.—Unwholesome food condemned for nine years ending June 30, 1896.

Articles.	1888.	1889.	1890.	1891.	1892.
Beef.....pounds.....	20,534½	20,990	28,504	13,169½	18,785
Veal.....do.....	2,736½	5,773	7,160	5,233	5,614
Mutton.....do.....	15,693	15,954	16,244	11,570	14,560
Bacon, ham, and pork.....do.....	2,533	2,218½	4,536	4,850½	9,877
Birds, rabbits, and squirrels.....number.....	2,959	2,950	6,998	3,030	3,249
Poultry.....do.....	9,722	8,226	5,874	4,310	3,984
Eggs.....dozens.....	250	40	738½		547
Cheese and butter.....pounds.....	10				
Potatoes and parsnips.....bushels.....	1,191½	463½	1,057½	381½	732½
Beans, pease, and onions.....do.....	838½	1,328½	917½	236½	348
Cabbage and lettuce.....heads.....	43,169	36,662	43,507	29,529	18,904
Squashes and pumpkins.....number.....	5,584	4,449	6,912	5,479	4,722
Corn.....dozens.....	2,589½	1,506	2,394	1,633	1,341
Cucumbers.....do.....	5,876	4,665	6,848½	5,656	2,590½
Egg plants.....number.....	6,924	2,993	1,961	3,958	2,353
Tomatoes and turnips.....bushels.....	1,256½	1,191	1,012	1,110½	1,063½
Kale and spinach.....do.....	1,787½	412½	907½	294½	444
Apples, peaches, pears, and plums.....do.....	917½	881	82½	286½	1,080½
Watermelons.....number.....	16,548	5,721	11,446	9,608	19,830
Cantaloupes.....do.....	22,712	13,501	11,739	8,815	15,528
Berries.....do.....	3,793	9,852	4,937	6,618	5,742
Oranges and lemons.....dozens.....	3,310½	1,594	520	521	371½
Bananas.....do.....	5,500	440	354	1,652	984
Grapes.....pounds.....	3,929	3,368	3,349	3,014	7,860
Miscellaneous fruits and vegetables.....bushels.....	1,993½	3,166	2,479½	1,968½	691½
Miscellaneous vegetables.....bunches.....	11,446	11,454½	13,043	10,098	14,213

Articles.	1893.	1894.	1895.	1896.	Total.
Beef.....pounds.....	20,583½	15,963½	20,092	33,854	192,476½
Veal.....do.....	3,620	2,372	3,123	5,338	40,969
Mutton.....do.....	11,906½	6,084½	11,724	19,443	123,179
Bacon, ham, and pork.....do.....	5,654½	2,423	8,085	21,018	61,195½
Birds, rabbits, and squirrels.....number.....	2,059	2,605	3,683	3,367	30,930
Poultry.....do.....	6,275	1,191	1,724	2,220	43,526
Eggs.....dozens.....	269	605	2,377½	2,492½	7,319½
Cheese and butter.....pounds.....					10
Potatoes and parsnips.....bushels.....	1,787½	216½	245	324½	6,400½
Beans, pease, and onions.....do.....	828	339½	802½	661½	6,300½
Cabbage and lettuce.....heads.....	30,435	20,071	17,021	37,003	276,301
Squashes and pumpkins.....number.....	8,544	9	50	35	35,784
Corn.....dozens.....	980½	951	1,178½	1,690	14,263½
Cucumbers.....do.....	5,832½	2,060½	3,402	1,971	38,908
Egg plants.....number.....	5,160	3,485	4,443	5,712	36,989
Tomatoes and turnips.....bushels.....	354	389½	419½	732½	7,529
Kale and spinach.....do.....	390½	600½	457	410	5,703½
Apples, peaches, pears, and plums.....do.....	191	744½	295	546½	5,779½
Watermelons.....number.....	1,625	3,184	2,947	3,248	74,152
Cantaloupes.....do.....	6,449	15,367	13,467	20,788	128,366
Berries.....do.....	6,236	4,993	3,694	6,348	52,213
Oranges and lemons.....dozens.....	231	143	2,375	116	9,182½
Bananas.....do.....	316	3,516	1,969	669	15,400
Grapes.....pounds.....	2,958	3,325	5,748	12,234	45,785
Miscellaneous fruits and vegetables.....bushels.....	571	520	1,953	1,911½	15,255
Miscellaneous vegetables.....bunches.....	15,368	16,372	19,545	28,290	139,769½

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TABLE L.—*Inspections and condemnations of marine products for year ending June 30, 1896.*

	1895.						
	July.	August.	September.	October.	November.	December.	
INSPECTIONS.							
Oysters.....bushels.....		250	23,350	66,400	60,100	63,900	
Clams.....number.....	939,000	724,000	416,000	98,000			
Crabs.....do.....	379,700	350,600	1,209,000	4,200			
Mackerel.....do.....	16,691	11,840	3,069	591			
Sheephead.....do.....	38	41	66	38			
Striped bass.....bunches.....	2,693	3,385	6,149	20,224	15,880	2,346	
Bluefish.....do.....	8,570	5,740	8,210	7,321	660		
Croakers.....do.....	7,840	6,200	5,450	2,418	440	1,168	
Eels.....do.....	80		158	496	352	105	
Sturgeons.....number.....	224	87	18				
Pike.....bunches.....			123	1,327	1,016	747	
Perch, yellow.....do.....	27	18	162	1,247	1,352	2,361	
Perch, white.....do.....	548	353	1,346	3,911	3,873	2,383	
Trout.....do.....	26,500	27,420	22,330	15,714	4,633	1,768	
Catfish.....do.....	3,879	3,047	3,703	8,886	2,958	3,060	
Mullets.....do.....	316	520	972	1,052	1,625	1,035	
Turtles.....number.....	29	3	5	1			
Spots.....bunches.....	80	540	600	460			
Drumfish.....number.....			131				
Chubs.....bunches.....							
Carp.....number.....	26		7	640	3,445	4,664	
Flounders.....bunches.....				866	198	275	
Shad, winter.....do.....				788	284	189	
Shad.....do.....				1,223	502	181	
Butterfish.....do.....	3,512	680	393	1,624			
Black bass.....number.....					35	28	
Herring.....do.....							
Hickory jacks.....do.....							
Porgies.....do.....							
CONDEMNATIONS.							
Oysters.....bushels.....		50	1,240		53	155	
Clams.....number.....	34,800	18,100	11,300	6,200			
Crabs.....do.....	75,400	57,000	23,200	1,200			
Fish.....bunches.....	1,310	1,027	1,362	1,491			
Turtles.....number.....	8	1	2		996	1,778	
Drumfish.....do.....			30				
Sturgeon.....do.....	1	9					
Herring.....do.....							
Shad.....do.....							
Hickory jacks.....do.....							
Carp.....do.....							
1896.							
	January.	February.	March.	April.	May.	June.	Total.
INSPECTIONS.							
Oysters.....bushels.....	64,200	50,300	36,000	16,000	1,500	1,200	383,800
Clams.....number.....				23,600	1,157,000	986,000	4,343,000
Crabs.....do.....					168,400	293,600	2,405,500
Mackerel.....do.....					580	5,875	38,586
Sheephead.....do.....						260	443
Striped bass.....bunches.....	58	1,923	7,292	4,856	1,809	2,314	68,929
Bluefish.....do.....					3,295	13,690	47,486
Croakers.....do.....				3,540	11,766	10,825	49,647
Eels.....do.....	12		112	869	661	242	3,087
Sturgeons.....number.....							739
Pike.....bunches.....		1			245	164	5,173
Perch, yellow.....do.....	2,292	1,106	557				19,059
Perch, white.....do.....	656	4,314	5,133	2,153			24,368
Trout.....do.....	233	1,137	4,630	3,789	924	798	18,119
Catfish.....do.....	2,497	7,229	5,321	2,580	49,620	45,440	3,127
Mullets.....do.....	2,096	1,468	1,574	8,298	8,755	2,801	60,434
Turtles.....number.....				994	109	34	11,795
Spots.....bunches.....					26	12	76
Drumfish.....number.....							1,680
Chubs.....bunches.....					5	5	141
Carp.....number.....	5,240	2,330	1,800				
Flounders.....bunches.....	1,134	298	285	273	258		
Shad, winter.....do.....	790		89		214	51	
Shad.....do.....		368	440				
Butterfish.....do.....		7	11,254	272,028	55,223	4,938	
Black bass.....number.....	75	63	75	161	2,060	3,720	
							11,989
							437

TABLE L.—*Inspections and condemnations of marine products, etc.*—Continued.

	1896.						
	January.	February.	March.	April.	May.	June.	Total.
INSPECTIONS—continued.							
Herring.....number.....		10,530	225,480	7,100,000	1,003,000	600	8,339,600
Hickory jacks.....do.....			1,181	36,686			37,867
Porgies.....do.....					280	134	414
CONDEMNATIONS.							
Oysters.....bushels.....				400			1,898
Clams.....number.....				800	14,500	14,900	100,600
Crabs.....do.....				1,400	37,400	55,530	251,130
Fish.....bunches.....	120	219	191	3,891	2,040	580	15,005
Turtles.....number.....					3		14
Drumfish.....do.....							30
Sturgeons.....do.....							10
Herring.....do.....				1,234,000	18,800		1,252,800
Shad.....do.....				1,339			1,339
Hickory jacks.....do.....				2,635			2,639
Carp.....do.....				21	8		29

MILK INSPECTION.

During the past year the act to regulate the sale of milk in the District of Columbia, approved March 2, 1895, has been put into operation. Under this law 395 permits have been issued for the maintenance of dairies and 139 for the maintenance of dairy farms within the District of Columbia; 402 permits have been issued to bring milk into the District of Columbia from neighboring States. The regulations under section 11 of the act may be found in the appendix.

The inspection of various dairies and dairy farms within the District of Columbia was made by the inspectors of this department, assisted by the veterinary surgeon connected with the fire department. They revealed in many cases an entire ignorance of the most rudimentary sanitary principles connected with the production and marketing of milk. The stables were small, poorly lighted, and poorly drained. Cows were in many instances found filthy and diseased. A recent inspection revealed the owner of a dairy feeding her cow on garbage, from an abandoned privy box. Many of the producers of milk have no idea of the importance of cooling it immediately after milking, and some have been found who have not hesitated to store it in living rooms and kitchens. These conditions have been remedied as far as possible. Better work will probably be done during the coming year, Congress having provided the health department with a veterinary surgeon. It will be impossible, however, for one man to make the necessary inspections, and the inspection force should therefore be increased.

The issue of permits to bring milk into the District from adjoining States was necessarily based upon statements made by owners of farms where the milk was produced and by veterinary surgeons employed by them. It is needless to say the results have not been entirely satisfactory. It is hoped hereafter to be able to inspect the premises of the shippers, as this department is authorized by law to do.

The milk law should be amended in the following particulars, among others: All cows from which milk is to be taken for sale in the District of Columbia should be registered. The sale of milk which has been brought into the District in violation of law should be explicitly forbidden. The method of sampling and analyzing milk required by section 13 should be changed by providing that the inspector shall, after taking a sample, tender a portion of it sufficient for analysis, properly

sealed, to the person from whom the sample was taken, so as to enable him to have an analysis made by his own agent, if he so desires.

COLLECTION AND DISPOSAL OF GARBAGE AND DEAD ANIMALS.

During the year just ended the work of collecting and disposing of garbage and dead animals has been performed under the following section of the act of March 2, 1895:

For collecting and removing garbage within the cities of Washington and Georgetown daily, and in their more densely populated suburbs three times a week, from April fifteenth to November first, and twice a week and daily from hotels and other like places, from November first to April fifteenth, and for collecting and removing dead animals within the District of Columbia daily, including Sunday, during the entire year, forty thousand dollars.

For destroying by cremation or reduction or otherwise disposing of all garbage and dead animals collected as above specified, or brought to the establishment for cremation or reduction by private parties, twenty thousand dollars: *Provided*, That from the amount appropriated for the cremation or reduction or otherwise disposing of garbage and dead animals there may be deducted a sum not exceeding two dollars and fifty cents per day, to be paid to a weigher appointed by the Commissioners of the District of Columbia whose duty it shall be to weigh and keep a record of all garbage brought to the establishment for cremation or reduction, and to have general oversight of the sanitary condition of this establishment: *Provided further*, That said Commissioners may, on and after the passage of this act, enter into contract, after due advertisement as required by law, under such regulations and specifications as they may establish, for the collection and removal of garbage and dead animals, as hereinbefore mentioned, for a period not exceeding five years, and for incinerating or otherwise disposing of the same for a gross sum not exceeding sixty thousand dollars per year for such collection and disposal: *Provided further*, That before any contract shall be entered into by virtue of this authority the existing contract with the District of Columbia for the collection and disposal of garbage shall be terminated by mutual consent or otherwise, and until such contract shall be entered into and the contractors ready to execute the same the said appropriations herein made shall, in the discretion of the Commissioners, be available for the purposes of paying for the increased service as hereinbefore provided; and said Commissioners are hereby authorized to make necessary regulations for the collection and disposal of garbage in the District of Columbia, and to annex to said regulations such penalties as will ensure the enforcement thereof: *And provided further*, That said Commissioners shall report to Congress at its next regular session fully their action had under the provisions of this paragraph.

OPERATIONS UNDER CONTRACT NO. 2088.

With the beginning of the year the collection and disposal of garbage and dead animals was commenced under a new contract. This contract was in the nature of a temporary agreement, entered into for the purpose of securing to the District whatever advantages might be derived from the operations of the appropriation act of March 2, 1895, while allowing a sufficient time for the installation of whatever system of garbage disposal might be finally determined upon. In view of the brief period for which it was to run (four months) and of the facilities already at the disposal of Mr. Edwin Warfield, the then garbage contractor, for performing the work, and in consideration of an agreement on his part to terminate the current contract, which, it was believed, was operating to the disadvantage of the District, the new contract was awarded to him without public bidding, the basis of payment being the full amount of the appropriation, \$60,000, and the method of disposal being by transportation on scows to the shores of the adjacent States lying along the Potomac River, below this District.

In entering into the contract for four months without public bidding the determination of the amount to be paid for the service received was necessarily arrived at by mutual agreement between the would-be contractor and the Commissioners. And while such contractor had been willing previously to be paid in equal monthly installments without

reference to the amount of work done during the period for which payment was made, he very reasonably declined to enter on such a basis into a contract to collect and dispose of garbage and dead animals during the months of July, August, September, and October, when collections were made daily and approximately one-half of the total annual work was to be done, as it would secure him but one-third of the total amount of the contract price. An examination of the appropriation act showed the distribution of work throughout the year as follows:

	April 15 to October 31.	November 1 to April 14.
I. Collection and disposal of dead animals.	Daily (including Sunday)...	Daily (including Sunday).
II. Collection and disposal of garbage from hotels and other like places.	Daily (including Sunday when ordered).	Daily (including Sunday when ordered).
III. Collection and disposal of garbage from the more densely populated suburbs.	Triweekly	Semiweekly.
IV. Collection and disposal of garbage from the city, except as specified above (II).	Daily	Semiweekly.

It was evidently impracticable, in view of the changes occurring during the year in the service taken as a whole, to apportion the payments upon any basis that would have an exact demonstrable relation to the work done. Even had it been practicable to weigh the material collected, this would have offered no guide to the amount to be paid each month, since, the amount appropriated for the service being fixed by law, it would have been necessary to know beforehand the maximum amount that could be collected in the year in order to fix the price to be paid per ton so as not to create a deficiency; nor had such a method been practicable, would it have represented the amount of work done by the contractor or of service received by the District, or afforded adequate means of protecting the Government from fraud. Under a system whereby the garbage is paid for in proportion to the amount collected as determined by weight, whenever and wherever the cost of collecting a ton exceeds the amount paid for such collection, as during bad weather or in sparsely settled and unimproved parts of the city and suburbs, the contractor may diminish the frequency of collections, because the greater the weight of garbage collected at each visit the less the cost of collection per ton and the greater the profit. Moreover, the weight of garbage collected might be frequently increased by the addition of foreign matter. Such irregularities could, of course, be readily detected by a sufficient force of inspectors, but this department is not provided with such a force.

The only method, therefore, of apportioning the amount to be paid to the service received seemed to be to adopt as the basis of payment the number of collections required by law to be made from the entire city during the fiscal year, viz, six per week from July 1 to October 31 and from April 15 to June 13 (171 collections) and two per week from November 1 to April 14 (47 collections), or at least 218 collections during the year from each and every house within the city. An apportionment on this basis would not, however, be absolutely fair, because—

I. Dead animals are collected daily (including Sunday) during the entire year.

II. Collections must be made from hotels and other like places daily (including Sunday when ordered) during the entire year.

III. Garbage collections are made in suburbs only triweekly during the summer—not daily as is done in the city.

It became necessary, therefore, to allow some arbitrary sum for the

service just specified (Paragraphs I, II, III) and apportion payment for the regular collection service on the basis of 218 collections per annum for each building in the city limits not authorized to receive daily service during the entire year. Ten per cent was determined upon more or less arbitrarily as the amount to be paid for the special service referred to, to be paid in twelve equal installments, the remainder to be apportioned throughout the year in proportion to the number of collections. Applying this method of estimating to the amount determined upon as the basis of payment for the four months' contract—\$60,000 per annum—the following is the result:

Month.	Collections.	Amount.	Month.	Collections.	Amount.
July	27	\$7,188.07	January.....	9	\$2,729.36
August	27	7,188.07	February.....	8	2,481.66
September	25	6,692.66	March.....	9	2,729.36
October	27	7,188.07	April.....	17	4,711.00
November.....	8	2,481.65	May.....	27	7,188.08
December.....	9	2,729.36	June.....	25	6,692.66

As any calculation could be but approximate, fractions have been disregarded in these computations. The amount to be paid for the collection and disposal of garbage and dead animals during July, August, September, and October was, therefore, \$28,256.87; the number of collections during this period was 106, out of 218 for the entire year.

The service given under this contract was not satisfactory. The total number of complaints during the entire period was 828, 384 being received during the month of August alone. They were not, however, in all instances due to neglect on the part of the contractor. Some were the fault of the householder; others arose from the difficulty of inaugurating a new service. The following table shows the details of the service during the four months:

Statement of garbage and dead-animal service, contract No. 2088, Edwin Warfield, contractor, July 1, 1895, to October 31, 1895.

	Total.	July, August, September, and October.	
		Average per day.	Average per 1,000 inhabitants.
Tons of garbage collected (estimated).....	8,478.1	69	30
Number of dead animals collected.....	3,573	29	.....
Number of complaints.....	828	7	.....
Cost (total) (amount of contract).....	\$27,761.46	\$229.73	\$10.25
Cost per ton.....	3.33	.....	.....
Cost per collection (approximate).....	264.00	.....	.....
Deductions:			
Cartage.....	\$8.00		
Pay inspectors.....	205.50		
	213.50	1.73	.....
Number of vehicles in service.....		52	.....
Number of horses in service.....		57	.....
Number of men in service.....		57	.....

OPERATIONS UNDER CONTRACT NO. 2188.

On June 24, 1895, bids were opened for the removal and disposal of garbage and dead animals for a period of four years and eight months, beginning November 1, 1895. As a result, the contract was awarded to Mr. Joshua N. Warfield, the method of disposal to be cremation, and

the contract price \$57,000 per annum. Upon the award of this contract this department, pursuant to the order of the Commissioners, renewed the investigation of the various methods of garbage disposal, which had been begun last year (see Mis. Doc. No. 145, Senate, Fifty-third Congress, third session); a report upon the result was made under date of March 1, 1895, and is printed at length in the appendix.

The investigation included a personal examination of reduction works, as follows: The American Reduction Company's system, an experimental plant at Brooklyn, N. Y.; the Merz system at St. Louis, Mo., and a modification of this system (experimental plant) at Blissville, L. I.; the Simonin system at Cincinnati, Ohio; the Arnold system at Philadelphia, Pa., and an examination of the following garbage crematories: The Dixon at Atlanta, Ga., and Camden, N. J.; the Smith at Philadelphia, Pa., and Atlantic City, N. J.; the Brown at Wilmington, Del.; the Rider at Allegheny City, Pa., and a modification at Pittsburg, Pa.; the Eagle at Coney Island, N. Y., and the Brownlee at New Brighton, N. Y.

The result of this investigation may be briefly summarized as follows:

REDUCTION PROCESS.

The so-called reduction processes for the disposal of garbage have for their object the extraction of grease and the reduction of the residue to a dried state, in which it is known as tankage. The uses of the grease are obvious. The tankage is utilized as a "filler" for fertilizers. The value of such a system depends upon the relative value of these two articles to the cost of their production. The market value, of course, fluctuates from day to day. In consideration of the merits of the reduction process it is necessary to consider this value with reference to the amount of such products to be secured from a ton of garbage. This is, of course, a variable quantity, depending upon the composition of the garbage. The chief article of value secured by reduction is the grease, while the principal element of expense in the process is the removal of the water. The relative proportions of these elements to each other, and to the amount of tankage, varies with the season of the year, and the locality from which collected. During the summer months the amount of grease is at a minimum owing to the large consumption of fruits and vegetables and a relatively small amount of meat; so small, in fact, is the amount of grease to be secured, and so great the cost of drying summer garbage in comparison with the market value of the resultant products, that reduction of garbage during this period must be carried on at a loss. A similar condition prevails with reference to garbage collected from different sections of the city; that collected from hotels and residences of the wealthy being rich in fat, and therefore valuable, while the reduction of that from the poorer quarters is accomplished at a net loss.

The gross cost of reductions varies, of course, with the system employed. Reliable figures upon this point are difficult to secure, owing to the tendency of those interested in the various methods to make the best showing possible.

From a sanitary standpoint any process of reduction with which I am acquainted would be a nuisance unless the establishment for such process is located at a considerable distance from dwellings, places of business, or frequented highways, or unless special methods are adopted for the disposal and destruction of the odors incident thereto, as, for instance, at St. Louis, Mo., where the entire air of the building can be made to pass through furnaces before making its exit. Either of such

methods of avoiding nuisance increases the cost of reduction, the former by increasing the cost of transportation of the garbage to the remote point at which the establishment is located, the latter by the cost of installing and operating the special devices required.

CREMATION OF GARBAGE.

The cremation of garbage has for its sole object the sanitary disposal of such material. It is recognized by advocates of this method that it can not be conducted at a profit unless it be by the utilization of the heat generated in the process, and while this has been accomplished in Great Britain in furnaces employed for the destruction of general refuse, it has not, so far as I am informed, been attempted in crematories burning only kitchen waste. Ashes resulting from the incineration of such material have been demonstrated by chemical analysis to have a considerable value as fertilizer, but in actual practice have not found ready sale. As in the reduction process, the amount of water which the garbage contains is the factor which enters the most largely in determining the cost of cremation.

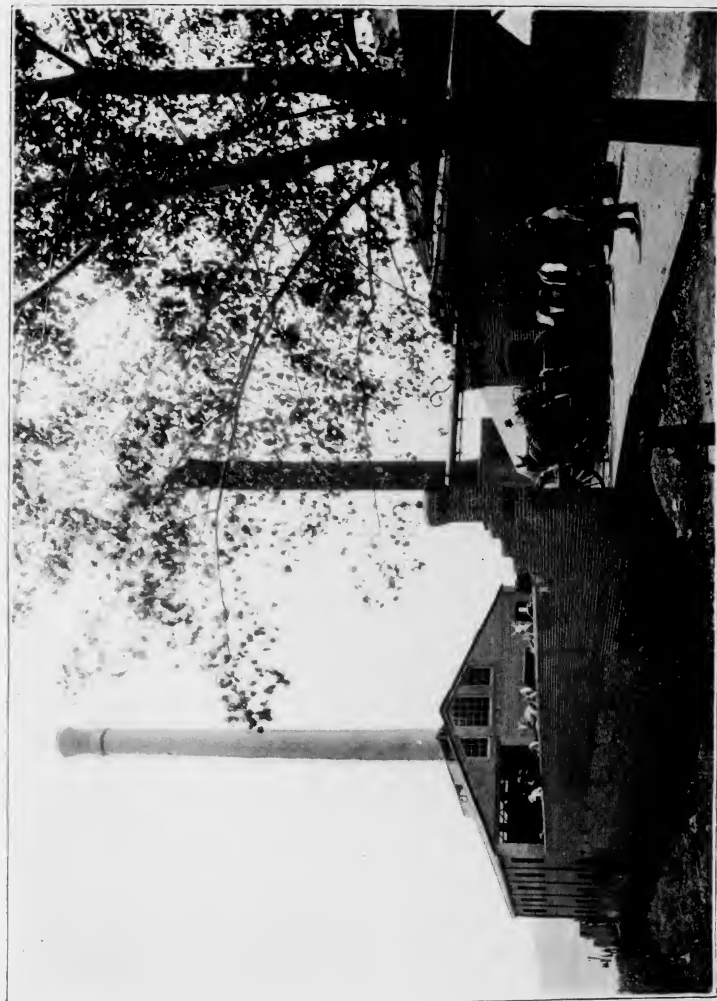
The chief, if not the only idea of value in the process of cremation being the proper disposal of the garbage, considered from a sanitary standpoint (at least where no attempt is made to utilize the resultant heat), it follows that a furnace which creates a nuisance by giving off foul odors is a complete failure, whatever may be the cost of burning such material. Foul gases necessarily arise during combustion and during the drying process which precedes it. The methods employed for the prevention of nuisance thereby depend upon the decomposition of such gases, when exposed to high temperatures, into compounds which are practically odorless. The amount of nuisance, if any, arising from a crematory depends upon the success which is met with in maintaining such gases, under suitable conditions, at such a temperature, for a sufficient time. In practice, this is accomplished without great difficulty. It is necessary, however, that a proper draft be maintained so that there is no escape of smoke from the furnace when it is opened to receive garbage; in fact, so that there is a draft inward through the openings (except the flues) at such times.

In the construction of garbage crematories the most difficult problem seems to be to build them so as to withstand the changes of temperatures to which they are exposed, and so that garbage can be destroyed at a reasonable cost. That garbage can be incinerated without creating a nuisance can not be questioned.

COMPARISON OF REDUCTION AND CREMATION.

The two methods of garbage disposal having been thus briefly described, it may be well to consider them from the standpoint of the municipality. If it is proposed that the city buy a disposal plant, then it is important to ascertain many things in relation to it which are not essential when the plant is to be furnished by the contractor, e. g., cost of plant, cost of operating, including cost of repairs, capacity, probable life, etc. Such information was not collected, therefore, in the investigation conducted by this department.

While the prime object of the cremation system is sanitary and that of the reduction system commercial, either method when operated by a contractor has for its sole object the disposal of the garbage in a manner which yields financially the best results to him. The requirement,



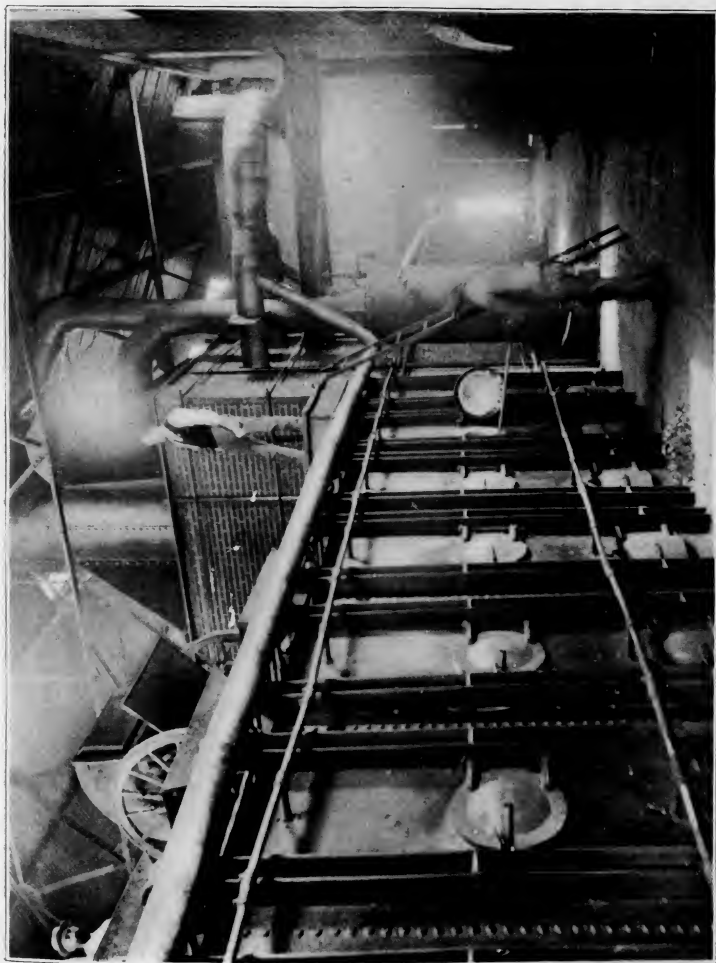
THE BROWN GARBAGE CREMATORY--SIDE VIEW, SHOWING ENTRANCE TO DRIVEWAY; ALSO SCALE-HOUSE.



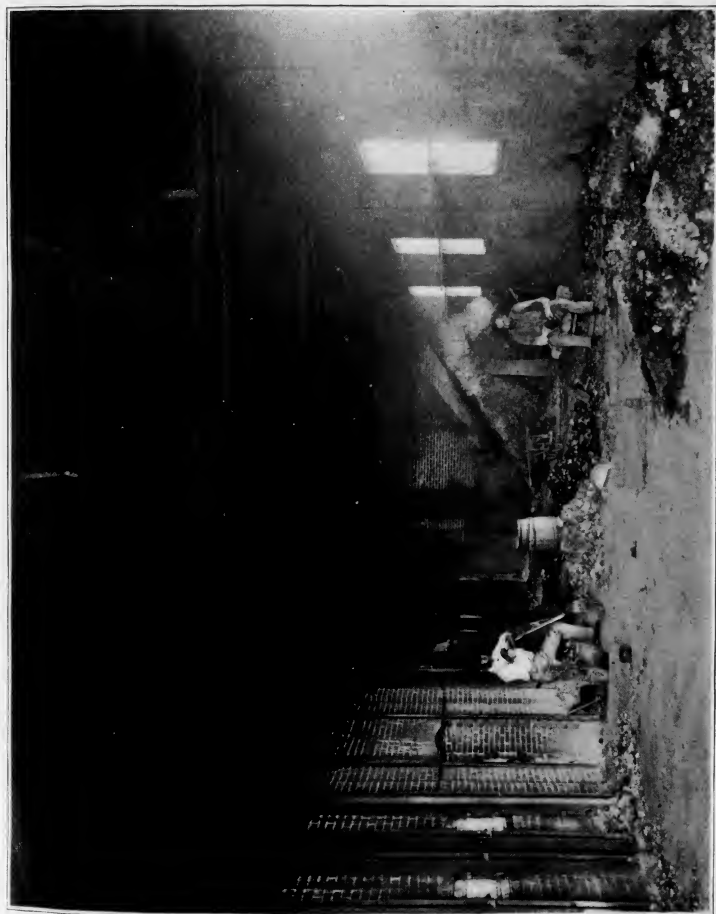


THE BROWN GARBAGE CREMATORY—VIEW SHOWING THE DUMPING OF GARBAGE.

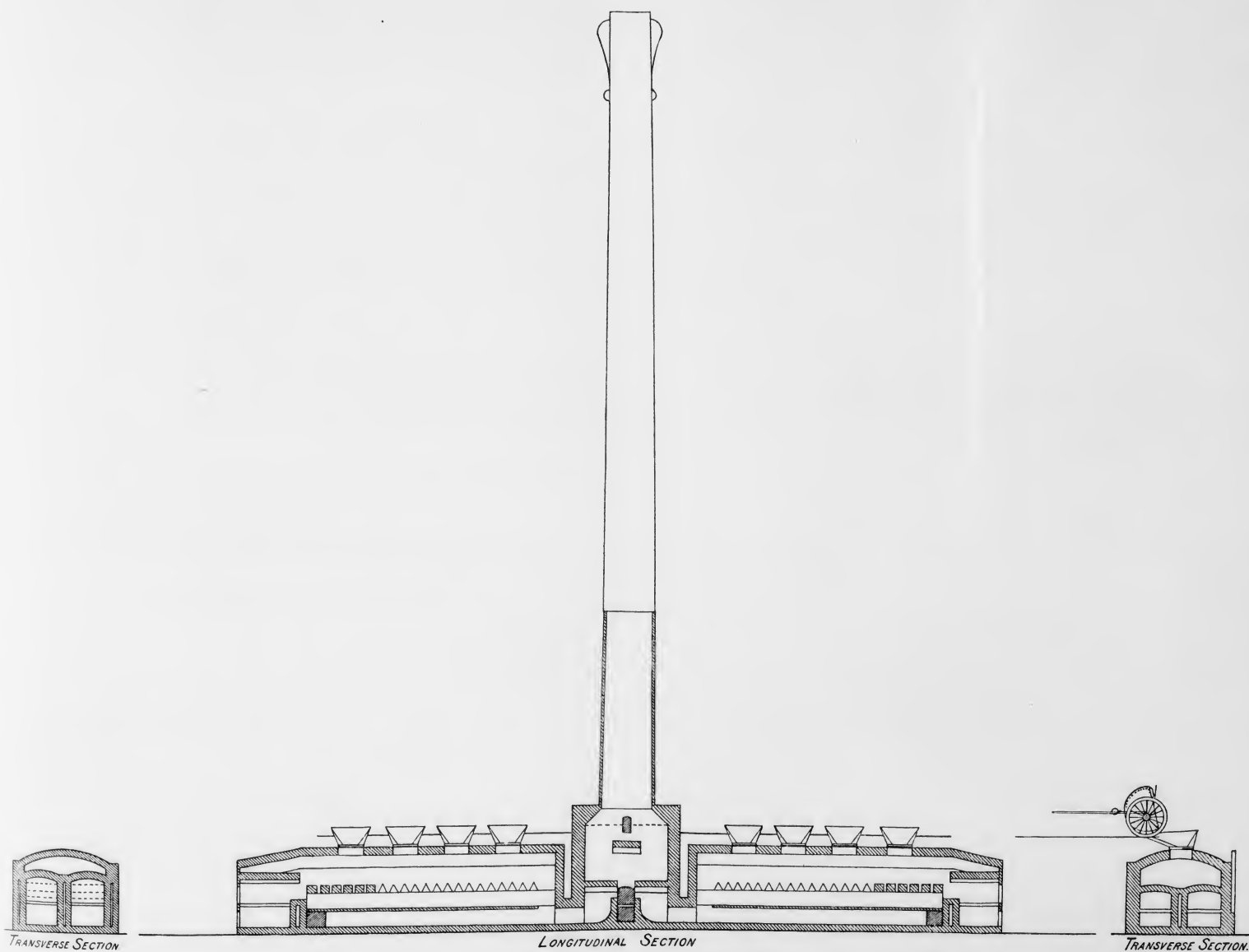




THE BROWN GARBAGE CREMATORY - VIEW SHOWING WATER JACKETS AND OTHER INTERIOR CONSTRUCTION.



THE BROWN GARBAGE CREMATORY - VIEW SHOWING ASSORTING AND STORING OF ASH.



THE BROWN GARBAGE CREMATORY
FOOT OF SO. CAPITOL STREET, WASHINGTON, D. C.
Scale $\frac{1}{8}$ in. = 2 Ft.



therefore, that either system be operated so as not to create a nuisance must be provided for by contract, as means necessary for this end are an expense to the contractor and therefore not likely to be provided except under compulsion. In view of the fact, however, that in the system of cremation the garbage is not exposed to the air from the time it enters the furnace as green garbage to the time of its removal as ash, while it must be handled several times during its manipulation under the process of reduction, it is much easier and less expensive to prevent nuisance under the former method than under the latter.

As to the commercial aspects of the two systems, it is difficult to secure reliable figures. Many have concluded that the reduction process yields the larger profit because of the larger gross value of the product, disregarding the larger cost of production both as to cost of plant and cost of operating; but, so far as I am informed, there have not been published any reliable figures to show the relation between the value of a given amount of garbage after reduction and the cost of reducing it. Whether or not, therefore, the reduction system is a success so far as financial results are concerned remains to be demonstrated, and if it is not a success in this particular there is not a single good reason why it should be employed in preference to cremation.

The service under the new contract was inaugurated November 1, but owing to delays arising from various causes no garbage was cremated until March 14, when the Brown furnace at South Capitol and T streets began operations. A Smith furnace was to have been erected, but has not been begun up to the date of this report, owing to the difficulty of securing a suitable site.

The Brown crematory in use in this city differs from those elsewhere in the use of coal instead of oil as fuel, and in various structural particulars. An expression of opinion as to the character of work done would be, at the present time, premature.

The following statement and table show the details of the work done during the year under the current contract and for the entire year:

Statement of garbage and dead-animal service, contract No. 2188, Joshua N. Warfield, contractor, November 1, 1895, to June 30, 1896.

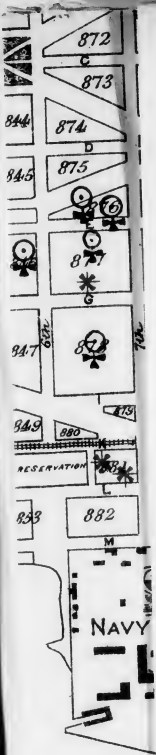
	Total.	Average per day.	From November 1, 1895, to June 30, 1896 (average per 1,000 inhabitants).
Tons of garbage collected (estimated).....	9,597½	39	34
Number of dead animals collected.....	4,846	20	.....
Number of complaints.....	689	3	.....
Cost (total).....	\$30,155.96	\$124.10	\$10.94
Cost per ton.....	3.14	.....	.....
Cost for collection (approximate).....	250.00	.....	.....
Deductions:			
By fines.....	\$10.00		
Inspectors' salaries.....	235.75		
	245.75	\$1.01	.....
Number of vehicles in service.....		36
Number of horses in service.....		40
Number of men in service.....		40

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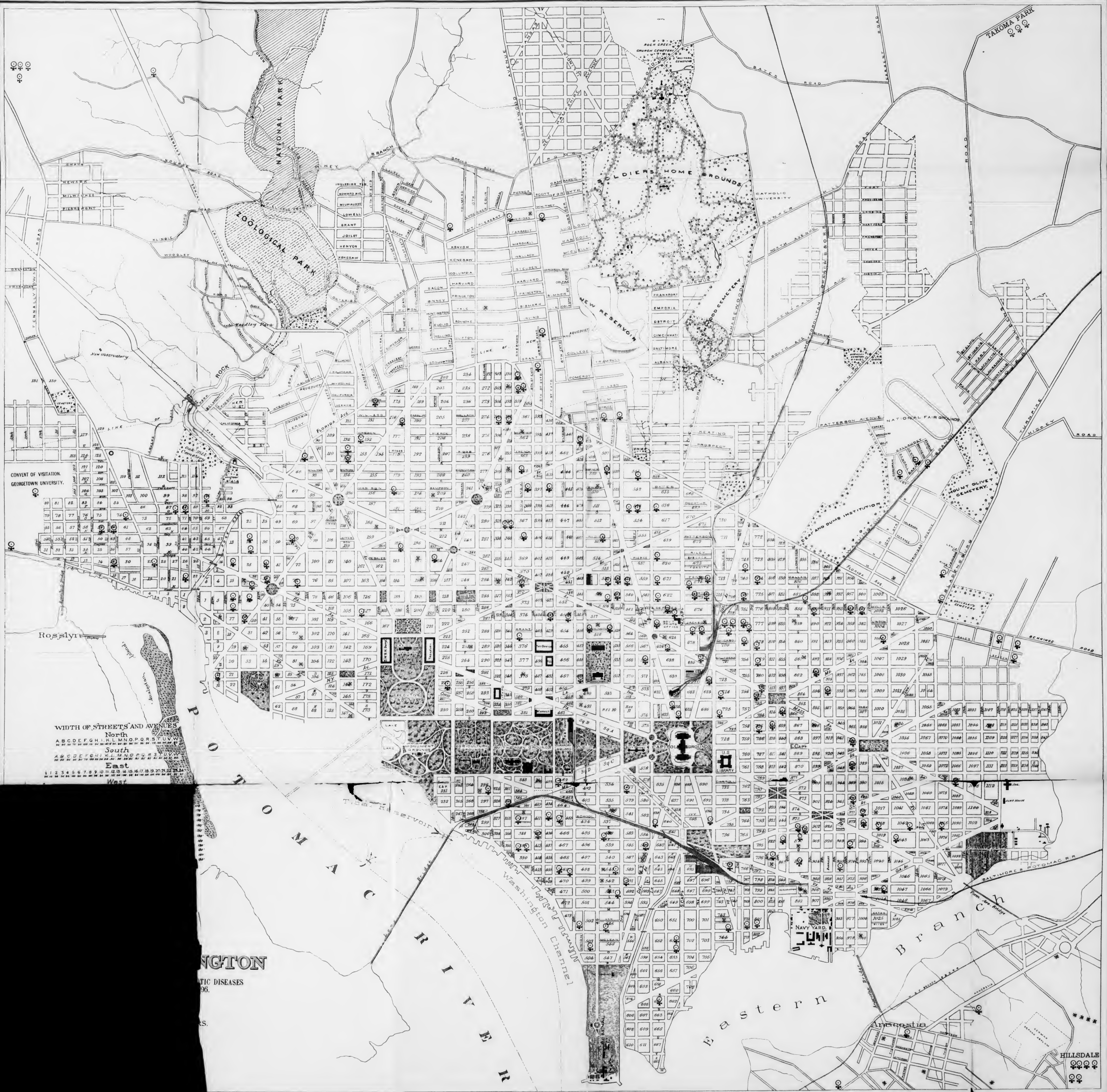
TABLE M.—Garbage and dead animals removed.

Day of month.	1895.											
	July.		August.		September.		October.		November.		December.	
	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.
1	68	31	71	27	4	31	68 ¹	5	39 ³	9	2	7
2	61	30	75	55	115	42	64	18	37	9	45	15
3	60	21	75	20	105	18	64	14	32	4	44	15
4	57	24	4	21	96 ³	22	62	10	53	12	40	12
5	53	34	105	52	84 ³	36	64	24	46 ²	16	36	8
6	51	26	97	33	81	17	4	15	41 ¹	13	36	8
7	3	14	100 ¹	62	90	33	82	15	28	19	35	16
8	75	31	96 ¹	66	4	15	63 ¹	22	31 ¹	9	2	16
9	68	45	93	56	130 ¹	20	61	14	32 ¹	12	41	12
10	67	65	92	67	101	19	51	17	2	4	37	8
11	64	36	4	29	101	39	51 ¹	32	40 ¹	9	38	8
12	60	28	112	72	91	13	46 ²	14	40	15	27 ¹	11
13	57	29	104	60	90 ¹	22	3	9	42	7	37 ¹	8
14	4	45	99	48	92 ¹	27	70	20	39 ¹	12	39	7
15	79	37	97	39	4	12	55	17	37 ¹	7	2	3
16	73	25	95	30	128 ¹	20	51	19	35	6	46	19
17	75	28	108	42	97 ¹	23	46 ¹	18	1	11	37	19
18	69	76	4	45	78	26	46	19	42 ¹	13	37	19
19	68	48	134	15	86	22	46	18	44	15	40	26
20	58	42	118	19	86	54	2	11	40	10	36	21
21	4	60	112	41	89	32	57	12	36	8	34	18
22	81	16	107	33	4	24	48	18	35	18	2	8
23	75	56	101	31	127	45	42	26	35	18	44	14
24	76	43	109	32	97 ¹	24	39 ¹	22	2	9	39	13
25	70	30	5	43	83 ¹	20	40 ¹	11	43 ¹	10	16	5
26	68	57	144	14	76 ¹	32	42 ¹	7	42	7	43	19
27	53	40	114	19	75 ¹	14	2	13	38	5	46	13
28	4	6	106	33	75 ¹	22	54	8	36	8	41	10
29	82	50	102	32	4	9	45	8	36	8	2	5
30	76	41	101	34	101 ¹	20	39 ¹	15	36	13	45	12
31	75	30	102	24	-----	-----	37	9	-----	-----	44	23
Total	1,834	1,146	2,787	1,194	2,400 ¹	753	1,450 ¹	480	1,014 ¹	316	1,014	398

Day of month.	1896.											
	January.		February.		March.		April.		May.		June.	
	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.
1	39	14	36	23	2	7	40 ¹	16	40	20	55	31
2	37	10	13	7	37	10	39 ¹	19	47 ¹	41	59	30
3	38	15	36 ¹	11	41	10	40 ¹	16	-----	4	64	38
4	35	8	38	14	37	15	37 ¹	23	76 ¹	28	60	16
5	2	6	39	13	35	13	-----	17	63 ¹	30	60	20
6	40	14	33	12	36	35	42 ¹	48	56 ¹	17	62	33
7	43	14	38	8	31	22	44	25	52	11	-----	11
8	50	29	34	12	2	17	42 ¹	19	53	33	91	57
9	44	29	2	8	38	27	46 ¹	34	57	10	67	28
10	47	14	40	7	36	17	40 ¹	23	-----	20	65	16
11	36	13	38	13	36	19	39 ¹	24	79 ¹	43	65	27
12	2	17	36	7	30	8	-----	7	62 ¹	26	61	29
13	41	21	32	7	35	8	57	29	21	13	63	35
14	45	5	36	15	34	9	52	34	39 ¹	31	-----	3
15	39	14	36	11	9	-----	3	51 ¹	35	50 ¹	12	97
16	40	12	2	-----	36 ¹	10	58	46	61 ¹	15	67	44
17	37	13	38	12	38 ¹	18	54	72	-----	4	67	29
18	35	19	36	25	43 ¹	15	58 ¹	38	79 ¹	46	62	18
19	2	9	39	11	36	14	-----	42	70	18	67	53
20	37	22	35	9	41 ¹	17	75 ¹	47	55 ¹	8	67	18
21	40	23	35	10	38 ¹	30	68 ¹	48	54 ¹	8	-----	22
22	38	21	38	20	-----	13	49	37	56 ¹	2	63	65
23	33	11	2	3	45 ¹	29	63 ¹	50	60	28	51	59
24	38	4	42	35	38 ¹	41	44 ¹	42	-----	15	50	35



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WASHINGTON

ATOMIC DISEASES

1966



TABLE M.—*Garbage and dead animals removed*—Continued.

Day of month.	1896.											
	January.		February.		March.		April.		May.		June.	
	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.	Tons gathered.	Dead animals removed.
25.....	36	11	40	18	38 ¹ / ₂	21	50 ¹ / ₂	56	88	21	61	25
26.....	2	8	38	22	38	34	.....	27	81	26	61	24
27.....	39	23	37	20	39 ¹ / ₂	37	74 ¹ / ₂	32	72	73	65	32
28.....	40	20	35	32	34	30	48	24	64	35	2	1
29.....	38	16	33	23	.....	10	49 ¹ / ₂	29	66	32	67	49
30.....	36	9	.....	.....	46 ¹ / ₂	40	42 ¹ / ₂	63	64	25	58	40
31.....	35	14	.....	.....	44 ¹ / ₂	23	.....	.....	.....	5	.....	.....
Total	1,064	458	926	417	989	602	1,319	1,022	1,584 ¹ / ₂	714	1,686	919

Owing to the delivery of the garbage sometimes at the garbage wharf and at other times at the crematory, with the resulting variations in the length of haul from the various parts of the city, the division of the collection area into districts has not been made upon a permanent basis.

The character of the collection service has been improved during the latter part of the year because of the close supervision which this department has been able to give through two special inspectors appointed for that purpose.

DISPOSAL OF REFUSE.

It is to be regretted that no progress has been made toward the establishment of a public scavenger service recommended in the preceding report of this department, and that even the appropriation of the small amount necessary to provide for the destruction of combustible waste was refused.

SCARLET FEVER AND DIPHTHERIA SERVICE.

A detailed statement of the work of this department under the act to prevent the spread of scarlet fever and diphtheria will be found in the appendix in the report of the medical sanitary inspector.

There were reported among the whites 286 cases of diphtheria, 66 of which were fatal, and among the colored 40 cases, 10 of which were fatal, or a total of 326 cases and 76 deaths. The degree to which this disease has prevailed during the past three years is shown in the following table. The decrease in the number of cases per 10,000 of population, from 15.97 to 11.84, has been due almost entirely to the remarkable and unaccountable decrease in the prevalence of the disease among the colored people. The decrease in the general percentage of fatal cases, from 39.81 to 23.31, has, however, resulted chiefly from the diminished fatality of the disease among the whites.

TABLE N.—*Reported cases of diphtheria.*

Year.	Ratio per 10,000 of population.			Percentage of fatal cases.		
	White.	Colored.	Total.	White.	Colored.	Total.
1893-94.....	14.06	20	15.97	43.41	34.48	39.81
1894-95.....	15.72	13.31	14.95	30.84	28.20	30.09
1895-96.....	15.24	4.54	11.84	23.07	25	23.31

By strict economy the health department has been able to continue the bacteriological examination of cases suspected of being diphtheria and of specimens from the throats of convalescent diphtheria patients. There is an increasing demand on the part of physicians for such examinations. The total number of cultures examined in such cases was 1,022. Five hundred and ninety-three were from patients suspected of having diphtheria, of which 377 gave negative results. The remainder were from patients who were known to have had the disease, and were examined for the purpose of determining the period of quarantine. In most cases this was found to be from ten to twenty days after the disappearance of the membrane, but in some instances the bacilli were found present as long as six weeks after this time.

There have been 281 cases of scarlet fever reported among the whites, of which 10 were fatal; 25 among the colored, of which 3 were fatal, or a total of 306 cases and 13 deaths. The following table shows the degree of prevalence of the disease during the past three years. There has been a decrease in the proportionate number of cases among both races, resulting in a decrease among the total population. The very considerable increase in the fatality of the disease among the colored people has produced, however, a slight increase in the percentage of fatal cases.

TABLE O.—*Reported cases of scarlet fever.*

Year.	Ratio per 10,000 of population.			Percentage of fatal cases.		
	White.	Colored.	Total.	White.	Colored.	Total.
1893-94.....	12.20	1.72	8.83	6.25	.....	5.85
1894-95.....	20.36	5.12	15.50	3.66	4.44	3.74
1895-96.....	14.95	2.84	11.10	3.56	12	4.24

In several instances it has been necessary to close schools for the purpose of disinfection.* The disease usually finds entrance to such places through cases of sore throat or rash which are considered by the family of the patient as too slight to require medical treatment, or, if a physician does see the case, it is diagnosed and treated as simple sore throat or roseola. In such instances the true nature of the disease is not suspected until the occurrence later of cases of undoubted diphtheria or scarlet fever, when the damage has already been done. Such occurrences are guarded against in the city of Boston, Mass., by a system of medical inspection of the school children, each school being visited daily by a physician connected with the health department, who examines the pupils and sends home such of them as are sick, with the recommendation that the regular medical attendant of the family be called to see the case. The plan seems worthy of imitation. Until some such systematic daily inspection of the school children is inaugurated here, there will be, from time to time, localized outbreaks of contagious diseases among them, due to mild cases of the disease the true nature of which is not recognized.

The custom now prevailing in the schools of the lower grades of permitting the same schoolbooks to be used by two schools each day can not be too strongly condemned. If the necessary appropriation can not be secured to supply every pupil with a set of books for his use during the entire school year at least, the distribution of free school books should be confined to the lower grades, such distribution being made, as far as possible, from the first grade upward, and, when the amount available is thus exhausted, those attending the higher grades

being required to provide their own books. Provision should be made also for the partitioning of the space along the walls of the cloak rooms of the schools, so that the hat and wraps of each pupil can be left in this room during school hours, without danger of their being infected by the garments of pupils coming from houses in which undiagnosed or concealed cases of contagious diseases exist. While I am not yet willing to concede the position taken by the medical sanitary inspector, that the unsanitary conditions of premises retard, rather than favor, the development of diphtheria fever among the occupants thereof, there can be no question as to the chances of contracting either of these diseases lying chiefly in exposure, direct or indirect, to infected persons or things, so that the conditions referred to above should cause more concern than such slight defects of lighting, ventilation, or drainage as may occur occasionally in our school buildings.

While it is pleasing to note the decrease in the prevalence of scarlet fever and diphtheria during the year covered by this report, twelve months is too brief a time for the determination of the causes which have led to such decrease. I would gladly attribute it to the more rigid enforcement of the law for the restriction of these diseases, and possibly it may be to some extent due to this cause. But recent legal interpretations of this law make it evident that if such is the case it is because of the willingness of citizens to comply therewith, or because of the force of public opinion compelling them to do so, rather than the exercise of any authority vested in the health department. For the only penalties provided by the act are (1) for failure to report cases of scarlet fever and diphtheria within twenty-four hours after becoming aware of the nature of the disease; (2) the giving of a false certificate when such certificate is required by the act; and (3) the visiting of schools, seminaries, or colleges by convalescents from scarlet fever or diphtheria who have not provided themselves with certificates of recovery (opinion of United States district attorney, February 19, 1896). An illustration may be cited where this department failed to secure the conviction of a physician who had certified to the absence of diphtheria from certain premises when, in fact, that disease did exist thereon, the certificate being issued for the purpose of allowing an inmate of such premises to return to school, but not being a "report or certificate" provided for by the act. These defects in the existing law will, it is believed, be corrected if the bill to prevent the spread of contagious diseases (H. R. 9023, S. 3072), now pending before Congress, is passed without emasculation in the process. I respectfully recommend, therefore, that the passage of that bill be urged in every possible way.

The disinfecting plant provided for by the act of March 2, 1895, has been installed on reservation 13 at a cost of \$2,890.75 for the building and \$3,260 for the necessary machinery. It includes apparatus for disinfecting by superheated steam, by gaseous disinfectants, as sulphur or formaldehyde, and by disinfecting solutions, as of corrosive sublimate, trikresol, etc. With this plant it is possible to disinfect mattresses, blankets, carpets, and such similar articles as can be taken from the patient's house.

The necessity for such an apparatus is shown by the following table of such articles which have been disinfected during the past year. During the early part of this period, and prior to the completion of the Municipal Disinfecting Station, the disinfection was done in a more or less unsatisfactory manner at a private establishment at a considerably greater cost than at present.

Table of articles disinfected during fiscal year 1896.

Mattresses	331	Carpets, matting, etc.....	152
Feather beds.....	47	Window shades	69
Bolsters and pillows.....	727	Wearing apparel	79
Blankets, sheets, towels, etc.....	208	Furniture	72
Tablecovers.....	3		
Draperies	21	Total	1,769
Rugs.....	60		

I regret, however, the absence of any appropriation for the establishment of a general disinfecting service, whereby the disinfection of the entire premises may be performed by a corps of trained laborers under the supervision of medical inspectors from this department. Disinfection, when intrusted to untrained labor, can not be satisfactorily performed, and the infected premises remain a menace to public health. When such work is done by persons not familiar with the technical details, they themselves are unnecessarily exposed to contagion, and may be carriers of the disease even without contracting it. Even in the performance of such disinfection as has been done it has been necessary to employ the regular laborers of the department to remove articles to be disinfected to and from the disinfecting station, to the greater or less detriment of the pound service in which they are usually engaged. I respectfully recommend, therefore, an appropriation for the maintenance of a public disinfecting service.

HOSPITAL FOR MINOR CONTAGIOUS DISEASES.

A resolution passed by the Senate, Fifty-fourth Congress, first session, directing that an investigation be made into the advisability of purchasing Analostan Island as a site for a hospital for the treatment of minor contagious diseases, was duly reported upon (see appendix), and an amendment to the District appropriation bill introduced in the Senate providing for such purchase (Congressional Record, p. 4792). The amendment was, however, not adopted. Later a bill (S. 3267) was introduced authorizing the purchase of a tract of land lying immediately north of the Boys' Reform School. This bill passed the Senate June 8, 1896, but was not acted upon by the House of Representatives. The tract referred to contains 53.76 acres; the maximum price authorized to be paid therefor was \$1,200 per acre. In view of such manifest liberality on the part of the Senate, I have recommended that an appropriation of \$50,000 be asked for at the next session of Congress for the purchase of a site for the proposed hospital. An effort was made during the year to use the available appropriation (\$5,000) for the erection of a building which could be used temporarily, at least, for the care of cases of scarlet fever and diphtheria alone. The lowest bid for the erection of the proposed structure was, however, considerably in excess of the amount above named. An appropriation of \$25,000 to cover the estimated cost of erecting wards for the treatment of these diseases, and of the necessary administration building, stable, etc., should be asked for.

SMALLPOX HOSPITAL.

The smallpox hospital provided for by the act of March 2, 1895, has been completed as far as the appropriation would permit. It is hoped that with the additional amount provided by the late session of Congress this institution can be put in readiness for use. It is much to be regretted that an appropriation could not be secured sufficient to provide certain additional buildings absolutely necessary for the proper

management of an outbreak of smallpox, e. g., a ward for the detention of suspected cases, a mortuary, etc.

The plans and specifications of the hospital as erected will be found in the appendix, together with a statement of the cost.

It is to be regretted that the clause authorizing the Commissioners to make regulations for the government of this hospital, which was inserted at the suggestion of the department in the general deficiency bill (act of June 8, 1896), was altered prior to its passage by striking out the clause authorizing penalties to be affixed to such regulations to secure their enforcement. I respectfully recommend that this defect in the law be corrected as soon as possible, so as to avoid any question as to the right of the Commissioners to affix such penalties in the absence of specific authority to do so.

INSPECTION OF FOREIGN VESSELS.

The number of vessels coming direct to this city from foreign ports is not large. It is necessary, however, for each such vessel to be inspected and passed by this department prior to entry at the custom-house. Owing to the small amount of such foreign trade and the absence of any serious results therefrom heretofore, the necessity for a law regulating the inspection and entry of such vessels has apparently been overlooked, and captains of vessels upon reaching this port have allowed sailors to go at large throughout the city prior to inspection. Nor is there any law to prevent such practice. A law regulating the entry and inspection of such vessels was drafted during the year, but was not offered for introduction into Congress, owing to the difficulty of perfecting certain details.

The following table shows the number of vessels which arrived at the port of Washington during the fiscal year just ended, with certain data relative thereto:

TABLE P.—*Vessels from foreign ports inspected.*

Date of arrival.	Name of vessel.	Nationality.	Rig of vessel.	Place of departure.	Cargo.
1895.					
July 1	T. J. Stewart	American...	Barkentine	Trinidad, Port-of-Spain	Asphalt.
24	B. R. Woodside	do	Schooner	St. Johns, New Brunswick	Laths.
24	L. M. Snow	do	do	do	Do.
Aug. 16	Greene	do	Bark	Trinidad, Port-of-Spain	Asphalt.
Sept. 18	Wm. Churchill	do	Schooner	Bathurst, New Brunswick	Laths.
Oct. 3	Herald	do	do	Trinidad, Port-of-Spain	Asphalt.
Nov. 11	B. R. Woodside	do	do	St. Johns, New Brunswick	Laths.
12	H. E. Thompson	do	do	Trinidad, Port-of-Spain	Asphalt.
25	Herbert Fuller	do	Barkentine	do	Do.
29	Jennie Hall	do	Schooner	do	Do.
Jan. 15	C. P. Dixon	do	Bark	do	Do.
May 15	Chas. L. Jeffrey	do	Schooner	Hillsboro, New Brunswick	Laths.
23	John Swan	do	Barkentine	Trinidad, Port-of-Spain	Asphalt.
26	Doris	do	do	do	Do.
June 9	Good News	do	do	do	Do.

CONTAGIOUS DISEASES IN ANIMALS.

During the year four glandered horses have been destroyed and the premises ordered disinfected. Investigations have been made in twelve cases of dogs alleged to have rabies and in four of which the animals were found to be suffering from that disease. Such investigations have been conducted, so far as special research is concerned, at the laboratory of the Bureau of Animal Industry, Agricultural Department, through

the courtesy of the chief of that Bureau, Dr. D. E. Salmon. Four cases of hog cholera were reported.

By authority of section 8 of the act of Congress entitled "An act for the establishment of the Bureau of Animal Industry, to prevent the exportation of diseased cattle, and to provide the means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals," approved May 29, 1884, the Commissioners of the District of Columbia promulgated certain regulations. So far as I have been able to discover these regulations do not appear upon the records of the health department, and have apparently been overlooked by that department and by the public. They are published in the appendix to this report in the statement of laws in force.

The law regulating the practice of veterinary medicine in this District, which was introduced at the last session of Congress, was not acted upon. It is important that proper legislation be secured to prevent quackery in this profession. Erroneous diagnoses of certain contagious diseases of animals, notably glanders and rabies and trichinosis, may result disastrously to the public health.

POUND SERVICE.

The work done in this service is shown by the following table:

TABLE Q.—Operation of the pound for the year ending June 30, 1896.

Month.	Impounded.						Total.	Disposition.				Fees collected.	
	Horses.	Mules.	Cows.	Hogs.	Goats.	Geese.		Dogs.	Redeemed.	Killed.	Dogs killed.		Sold.
1895.													
July	9	.....	1	.....	.....	6	128	144	6	128	128	9	\$34.95
August	4	.....	8	.....	.....	.....	584	596	31	562	561	3	75.25
September	7	.....	3	.....	.....	.....	549	559	22	533	533	4	54.00
October	7	.....	2	.....	1	11	419	440	46	389	387	4	86.00
November	8	.....	.....	.....	1	.....	233	242	15	217	216	5	41.75
December	5	1	1	.....	1	.....	139	147	11	126	125	7	35.25
1896.													
January	.....	.....	.....	.....	.....	.....	146	146	5	138	138	3	16.00
February	5	.....	1	.....	.....	.....	49	55	8	43	43	4	24.25
March	6	.....	.....	.....	.....	.....	156	162	7	153	151	1	21.25
April	4	1	.....	.....	.....	.....	236	241	16	220	220	4	40.25
May	3	1	2	.....	.....	.....	295	301	32	268	268	8	62.00
June	6	.....	.....	.....	.....	.....	292	298	11	284	283	4	36.50
Total	64	3	18	.....	3	17	3,226	3,331	210	3,061	3,053	56	527.45

TABLE R.—Animals impounded during the thirteen years ending June 30, 1896.

Year.	Horses.	Cows.	Calves.	Mules.	Hogs.	Geese.	Sheep.	Goats.	Dogs.	Total.
1884	31	120	.....	.....	2	75	.....	29	2,699	2,958
1885	15	52	.....	.....	2	48	3	64	3,190	3,378
1886	22	66	.....	.....	2	89	1	52	2,968	3,201
1887	21	87	.....	.....	2	16	2	50	2,880	3,058
1888	25	85	.....	.....	4	26	.....	36	2,572	2,751
1889	27	64	.....	.....	3	14	.....	17	2,581	2,706
1890	51	110	.....	.....	2	19	.....	25	2,834	3,044
1891	60	131	1	.....	5	78	.....	26	2,523	2,826
1892	62	109	.....	.....	20	28	1	20	3,077	3,319
1893	76	38	.....	.....	5	3	.....	33	2,963	3,120
1894	88	26	.....	.....	12	.....	7	21	3,408	3,562
1895	80	26	.....	.....	6	18	.....	11	3,601	3,743
1896	64	18	.....	.....	3	17	.....	3	3,226	3,331
Total	625	932	1	68	17	431	14	387	38,522	40,997

The recommendation of the preceding report for the erection of a new building for the pound, and for the accommodation of the various horses and vehicles used by this department, is renewed. This is desirable not only because of the location of the present pound in the roadway of New York avenue, but because of its primitive condition, and especially the absence of the proper conveniences for the destruction of such animals as meet that fate.

PROSECUTIONS.

The following table shows the number of cases in which warrants were issued at the instance of this department, and the outcome of their issue:

TABLE S.—Cases referred to the police court during the year ending June 30, 1896.

Disposition.	Character of nuisances.											
	Privies.	Water-closets.	Sewers.	Wells.	Manure.	Defective drainage.	Oyster shells.	Stables.	Yards.	Vacant lots.	Hogs.	Cows.
Cases convicted and fined.....	32	2	1	....	4	....	....	1	4	....	....	2
Cases convicted and fined and sentence suspended.....	2	....	1	....	....	2	....	1	....	....	....	....
Cases convicted and personal bonds taken.....	105	6	10	2	....	6	1	3	21	2	....	....
Cases nolle prossed (nuisance abated after issue of warrant).....	67	9	8	1	....	17	....	5	9	10	1	....
Cases dismissed.....	7	....	1	....	....	8	....	....	1	2	....	1
Cases not found by the police.....	10	....	....	....	....	1	....	....	2	....	....	....
Total.....	223	17	21	3	4	34	1	10	37	14	1	2

In a number of instances, as will be seen by the table, the cases have been nolle prossed without coming to trial. The health department has requested that this be done in many instances because of the almost uniform practice of the court of dismissing cases in which the nuisance has been abated after the issue of the warrant, but before the case came to trial. This practice is manifestly to the detriment of the service of this department, in view of the fact that it is required by law, in most instances, to allow in the original notice a reasonable time for the abatement of the nuisance, and unless the court requires compliance with such notice, abatement is unreasonably delayed.

Some embarrassment arises from the absence of any written record of the decisions of the judges of the police court. Such record should be kept so as to enable the health department to be guided in its operations by preceding decisions of the court and for the information and guidance of the public.

LEGISLATION.

I must again urge the need of a revision and codification of the sanitary laws of this District. Some of the statutes now in force have long since become obsolete by reason of the advance of sanitary science; others are, in whole or in part, inoperative because of the absence of a penalty clause; and many which an increased suburban population demands should apply to the entire District are at present limited in their operations to the city and its "more densely populated suburbs." The examination of existing laws for the purpose of formulating such

legislation as is necessary to transform them into a complete and concise sanitary code is an undertaking of such magnitude that, if left to the unaided efforts of the regular force of this department, it can not be completed for several years; whereas, if reasonable assistance is given, a more satisfactory result may be obtained in a much briefer period. In the preparation of such legislative measures as have been proposed by this department during the past year almost the entire labor, both mental and manual, has, on account of the limited clerical force of the office, devolved upon the health officer in person, interfering more or less with other official duties of scarcely less importance.

The preparation of a code of sanitary law should preferably be intrusted to a commission rather than to a single person. For while sanitary considerations are of supreme importance, due regard must be paid to business interests and to the principles of law, lest in protecting the health of the citizen we unnecessarily molest him of his property or restrict his personal rights. In view, however, of the many needs of this department, I have not deemed it advisable to ask for an appropriation to pay the expenses of such a commission. I am led to this determination the more readily because of the creation, by the Washington Board of Trade, of a committee to codify the sanitary laws of the District, and of the existence, in connection with the Medical Society of the District of Columbia and of the Washington Homeopathic Medical Society, of committees on legislation, in which committees the various interests are represented, and all of which will, it is believed, actively cooperate in the work proposed. It is urged, however, in support of the request of this department for additional clerical assistance, that such help would materially facilitate this work.

Three of the legislative measures recommended in the last report of this department have become laws, viz, an act to provide for the incorporation and regulation of medical and dental colleges in the District of Columbia, approved May 4, 1896; an act to provide for the drainage of lots in the District of Columbia, approved May 19, 1896, and an act to regulate the practice of medicine and surgery, to license physicians and surgeons, and to punish persons violating the provisions thereof in the District of Columbia, approved June 3, 1896.

Four other measures were passed bearing directly upon the public health and the practice of medicine, viz, an act to incorporate the Postgraduate School of Medicine of the District of Columbia, approved February 7, 1896; an act relating to the testimony of physicians in the courts of the District of Columbia, received by the President May 13, 1896, and became a law without his approval; an act to establish certain harbor regulations for the District of Columbia, approved May 19, 1896, and a clause in an act making appropriations to supply deficiencies in the appropriations for the fiscal year ending June 30, 1896, and for prior years, and other purposes, approved June 8, 1896, authorizing the Commissioners to make rules and regulations for the government of the small-pox hospital.

The following list shows the present status of various bills relating to public health in this District, introduced at the late session of Congress, but not acted upon:

A bill to regulate the practice of veterinary medicine and surgery (S. 1233). Referred to Committee on District of Columbia December 30 (H. R. 2659). Reported from Committee on District of Columbia March 19, 1896, and placed on House Calendar.

A bill to provide street entrances for alleys (S. 1987). Referred to

Committee on District of Columbia February 6 (H. R. 5680). Referred to Committee on District of Columbia February 7.

A bill to incorporate the Washington Homeopathic Medical College (S. 1814). Reported adversely and postponed indefinitely (report No. 529, H. R. 4780). Referred to Committee on District of Columbia January 28, 1896.

A bill to test the improved methods for the disposal of sewage and water filtration of villages and cities (S. 2123). Reported adversely and postponed indefinitely May 6, 1896 (report No. 878).

A bill to prevent the spread of contagious diseases in the District of Columbia (S. 3072). Referred to Committee on District of Columbia May 6, 1896 (H. R. 9023). Referred to Committee on District of Columbia May 15, 1896.

A bill to authorize the acquisition of certain real estate for the purpose of a site for a hospital for the treatment of contagious diseases (S. 3267). Passed the Senate June 8, 1896.

A bill to provide for the care of inebriates (H. R. 818). Passed the House March 9, 1896. Reported adversely in the Senate and recommitted.

A bill to prevent the adulteration of candy (H. R. 8679). Referred to Committee on District of Columbia May 4, 1896.

A bill to prohibit cemeteries which will interfere with street extensions of the city of Washington (H. R. 8729). Referred to Committee on District of Columbia May 6, 1896.

A bill for the regulation of cemeteries and the disposal of dead bodies (H. R. 9099). Referred to Committee on District of Columbia May 20, 1896.

A bill to regulate privies (H. R. 9142). Referred to Committee on District of Columbia May 22, 1896.

Resolutions were passed by the Senate bearing upon the sanitary administration of this District, as follows:

A resolution directing the Committee on the District of Columbia to inquire into the propriety of purchasing Analostan Island as a site for a hospital for contagious diseases, and for such other purposes as the Government may require, February 4, 1896 (Congressional Record, p. 1408); a resolution directing the Commissioners of the District of Columbia to make a full report of their action under the act of March 2, 1895, in the matter of the removal of garbage of the cities of Washington and Georgetown, with transmission of all papers, February 28, 1896 (Congressional Record, p. 2508, S. Doc. No. 220).

A more or less detailed statement of defects in existing laws has been made in connection with the consideration of the operations of this department under each law. An effort will be made during the coming year to accomplish as much as possible in the preparation of laws necessary to correct such defects and to supply deficiencies in the present code.

WORK OF SPECIAL COMMITTEES.

Under date of June 15, 1895, a special committee was created by the Commissioners, consisting of Dr. J. S. Billings, deputy surgeon-general, U. S. A., Mr. John B. Brady, inspector of buildings, Capt. Edwd. Burr, assistant to engineer commissioner, and the health officer, to investigate and report upon the heating and ventilation of schoolhouses. While the investigations of this committee have been practically completed, I regret that as yet no formal report has been offered. One of the main points for which the committee was appointed has, however, been

accomplished, viz, the examination of the Smead system of heating and ventilating, as it had been introduced into a large number of school-houses in this District. This investigation has led to radical changes in that system, wherever it has been installed in buildings, since the committee was appointed, whereby certain defects have been removed.

A committee to investigate the prevalence of the smoke nuisance, and to report upon the best means of securing its abatement, was appointed by the Commissioners December 4, 1895, as follows: Capt. Edwd. Burr, assistant to engineer commissioner, Mr. John B. Brady, inspector of buildings, and the health officer. Up to the present time, however, no practical results have been attained.

Under date of February 8, 1896, a committee, consisting of Capt. G. J. Fieberger, assistant to engineer commissioner, Mr. John B. Brady, inspector of buildings, and the health officer, was appointed to investigate and report upon the advisability of the purchase by the Government of Analostan Island as a site for the erection of a hospital for contagious diseases and for other purposes, a resolution having passed the Senate calling for such an investigation. A report of this committee is printed at length in the appendix.

Respectfully submitted.

WM. C. WOODWARD, M. D.,
Health Officer.

THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

**SPECIFICATIONS OF THE WORK AND MATERIALS TO BE USED IN
THE CONSTRUCTION AND COMPLETION OF A ONE-STORY BRICK
HOSPITAL, TWO-STORY BRICK BUILDING FOR DISINFECTING
PLANT, AND A HIGH MASONRY WALL, TO BE LOCATED ON RES-
ERVATION NO. 13, DISTRICT OF COLUMBIA.**

SPECIFICATIONS.

Specifications of the work and materials to be used in the construction and completion of a one-story brick hospital, two-story brick building for disinfecting plant, and a high masonry wall, to be located on Reservation No. 13, in the District of Columbia, in accordance with the accompanying drawings prepared by the inspector of buildings, which drawings are annexed and made part of these specifications, and all work indicated thereon must be performed, whether the same be more particularly specified or not.

EXCAVATION.

[Refer to the general clauses and conditions.]

The area of ground allotted for the above building will be 200 feet square, and this space will be graded as shown by the profiles attached to the drawings. The roadways will be cut so as to allow a filling of 4 inches of clean branch gravel, which must be solidly rolled and compacted.

Excavation for trenches will average a depth of 2 feet 6 inches below the present surface of the grounds. All filling necessary for the proper execution of this portion of the work must be provided by the contractor.

CONCRETE BASE.

[Refer to the general clauses and conditions.]

The foundation or damp course will be formed of concrete, of the dimensions shown on the drawings, composed of one part cement, two parts sharp river sand, and four parts clean egg-size broken stone, thoroughly mixed, solidly rammed and compacted.

The cement to be used on this work must stand neat a tensile strain of not less than 100 pounds in seven days.

BRICKWORK.

[Refer to the general clauses and conditions.]

The footings will be three courses high, sound arch brick bedded and jointed solidly in cement, the starting course to be one foot wider than the walls. Each course racked back two inches on each side. No edging courses will be allowed. The bricklayer must call the attention of the inspector to any uneven planes in the foundation before starting the brickwork.

The foundation walls and piers of buildings to the top of first-floor joists will be laid with straight hard-burned bricks bedded solidly and rubbed up to insure solidly filled cross joints in cement, a slate course the full width of walls to be inserted at grade line, and both sides of walls as far as slate courses shall be plastered with cement finish three-eighths of an inch thick, put on in two coats and troweled to a uniform surface.

The walls of superstructure of each building will be constructed with straight hard-burned bricks laid in the best lime mortar, the head and cross joint to be solidly filled; these walls to be bonded every fifth course, each brick solidly bedded and rubbed up to insure solid cross joints. These walls to be carried up level and true, the bricklayer to be provided with a "story rod" to work same, so as to obtain a level line for uniform timber bearings. The exterior face of walls and the interior face of kitchen, storeroom, laundry, and disinfecting room wall to be lined up with red brick of a dark uniform color, laid with clean struck joints.

Chimneys will be constructed where shown and the flues formed with unglazed terra-cotta pipe incased in brickwork and topped out as shown by drawings.

PAINTING AND GLAZING.

All interior and exterior woodwork will have three coats of plain colors, and tinted as directed by the inspector of buildings. The tin work will have two coats of approved metallic roof paint of a color to be selected as aforesaid. All frames will be primed before setting, and all painted will be sandpapered upon second coat to the satisfaction of the inspector of buildings.

All timber flooring will have one coat of linseed oil.

All windows and transoms will be glazed in the best manner with No. 1 cylinder glass, provided that the windows between hospital corridor and separate wards will be glazed with ground glass.

PLASTERING.

All ceilings and stud partitions will be lathed with seasoned spruce or white pine laths, one-fourth inch key on ceilings and three-eighths inch key on walls. The brick walls and the ceilings of kitchen, storeroom, laundry, and disinfecting rooms will not be plastered. All other walls will be plastered with adamant wall plaster in accordance with the most approved formula. All walls and ceilings to be sand finished. Brick walls will be wet before applying the first coat. All grounds will be five-eighths of an inch thick, and all plastering to be mixed and finished to the satisfaction of the inspector of buildings.

In plastering, no acute corners shall be made anywhere in said buildings. All interior angles of walls and ceilings shall be concaved or coved at a 4-inch radius, and external or projecting angles shall be convexed or rounded at a 3-inch radius. The plastering shall be played out or beveled down to the face of all window and door frames, as the case may require, so that no crevices nor crannies shall occur at any point in said buildings.

PLUMBING AND DRAINAGE.

The plumbing of all buildings and drainage pipes will be as represented on plans, the right of substitution and alteration in immaterial points being herely reserved, and such other necessary fittings usual in first-class plumbing and required by the plumbing regulations, as may be omitted in these specifications, will be made and supplied by the contractor without extra compensation.

Connection will be made with sewer outside of wall with 6-inch cast-iron pipe and carried into buildings of sufficient depth for proper drainage of same, and branched to locality of soil pipes in bathrooms and water-closets, kitchen, and laundry. All horizontal pipes to be 6 inches; all vertical pipes 4 inches. The sewer to extend, with a 5-inch iron pipe, to rain pipes at corners of building, and 5 feet above the surface. All pipes in the building to be of iron and well calked. All portions of the sewer and fixtures to be ventilated and tested as required by the plumbing regulations. The "9" water-closets to be Pl. 131-g, Mott's catalogue. The six bath tubs to be Pl. 965-g, not decorated, and fitted with five-eighths Fuller N. P. bath bibbs. Five 14-inch countersunk marble slabs, with seven 14-inch marbleized bowls to be supported by N. P. brackets as shown on plans. Basins to be fitted with N. P. compression cocks and supplied with hot and cold water, and are to have suitable chain stay, etc. Bath tubs to be supplied with hot and cold water. All fixtures to be trapped, connected in the best manner, and neatly finished. A 3-inch terra-cotta pipe is to run from the kitchen to the hospital for the purpose of insulating the hot-water pipe to be brought from the hot-water heater in kitchen. Hot-water pipe to be 14-inch galvanized, and is to be controlled by a 14-inch Jenkins Bros. globe valve at heater. The water is to be brought in from service by a 14-inch pipe and distributed to the several fixtures with galvanized pipe and lead connections. A stopcock and box is to be placed on the service pipe near its entrance to buildings. All cocks to be of approved make and N. P. The 4-inch cast-iron pipe is to run to the center of the lavatories and disinfecting room, kitchen, and laundry, and is to have 4 inch cast-iron traps with trap screw and ferrule in each where designated on plans. The plumber will be required to ram the earth in filling the trenches, and leave the surface in perfect order. The water-closets to be fitted with copper-lined panel tanks ("siphon"), tank boards, seats and backs. The 3-inch terra-cotta pipe is to have cement joints to make it water-tight, and is to be placed 4 feet below the surface.

There will be two slop sinks, J. L. Mott's, Pl. No. 506-g, one in each hospital lavatory, supplied with cold water. There will be one porcelain sink 23 by 16 by 6 inches deep, J. L. Mott's, Pl. No. 521-g, supplied with hot and cold water, in pharmacy.

There will be one urinal in one lavatory to be hereafter designated.

There will be one galvanized-iron kitchen sink, 50 by 24 by 6½ inches deep, J. L.

Mott's, Pl. No. 534-g, supplied with hot and cold water, in kitchen. There will be two 32½ by 18 inches zinc sinks, one in each nurse's room.

There will be five soapstone laundry tubs in laundry supplied with hot and cold water and approved sewer connections.

All apartments having granolithic floors will have proper traps for drainage, as shown on plans.

All plumbing (fixtures) must be of the kind specified or the equivalent thereof.

All work must be approved by the inspector of plumbing before being accepted.

GAS FITTINGS AND FIXTURES.

The best wrought-iron gas pipes of the various sizes required will be used. The mains will run as direct as possible, and so graded that any water gathering in pipes can be run out at a convenient point near meters. The main pipes leading from metres to be 1½ inches, and no pipe to be less than three-eighths inch. All pipes will be secured in place with iron holdfasts. The joints will all be red leaded, and all pipes capped and proved three times during the prosecution of the work and caps left on. No joists will be cut for pipes.

VENTILATORS.

In hospital building there will be sixteen 9-inch diameter "Star" ventilators, one each over each ceiling gas fixture in the general wards, convalescing wards, nurses' rooms, linen closets, receiving room, and food-distributing room. Each of these ventilators will be directly connected with louver registers set in ceiling and furnished with cord adjusters attached, and conducted through air chambers direct to roof.

There will be one 18-inch diameter louver register, with cord adjusters attached, in the center of each lavatory ceiling, communicating with air chamber above.

There will be two 18-inch galvanized-iron ventilators with cowls in roof of disinfecting building.

GRANOLITHIC FLOORS.

The floors of food-distributing room in hospital, in kitchen, storeroom, laundry, and disinfecting rooms will be of granolithic raised 6 inches above grade, level-graded to traps, and will have a bed of 4 inches of best cement concrete.

CINDERS.

Before the floor joists of hospital building are laid, a bed of clean hard-coal cinders, free from ashes, 12 inches thick, leveled off and well rolled, will be laid over the entire area of hospital except food-distributing room, the top surface of which bed of cinders shall be level with the ground and two feet below the lower edge of joists.

The fireplaces and mantelpieces, as exposed by the design, will be faced up in pressed bricks, laid with neat tucked joints in red mortar, and finished off with a 6-4 inch slate slab, edges molded, and 6-4 inch slate hearthstones.

The bricklayer must do all jobbing incidental to this branch of the work, turn ring arches over lintels as required by the inspector, cut corners of all inside windows, wall up all beams, joists, and rafters solidly, and leave no empty spaces in the walls.

Fence wall will be constructed as shown by the drawings, the foundation will be 18 inches thick, to start on footings two courses high and 22 inches wide, bedded upon the earth in cement, and carried up to the first slate course, with all head and cross joints filled solid in cement and sand mortar. The walls above slate courses to be laid with dark red brick in rich lime mortar, heads and cross joints filled solid, and joints struck both sides, the better side to be exposed to the yard.

The quality of the brick for all the work above specified shall be the best hard-burned, arch, and dark red brick. Light colored red shall be excluded, and if such shall be introduced, the contractor shall forfeit to the District the sum of \$5 for each and every brick found in the walls by the inspector of buildings or his representative in charge of the work.

The cement mortar shall be composed of one part cement and two parts clean, sharp river sand. The tensile strength of the neat cement (seven days) shall not be less than 100 pounds.

The lime mortar shall be composed of fresh lime and clean, sharp river sand, in proper proportions to secure a good, rich mortar.

STONEMWORK.

The doorsills will be 8 by 10 inches by required lengths. The window sills will be 5 by 8 inches by required lengths, cut with wash and exposed faces dabbled, all of Ohio stone.

GALVANIZED IRON.

The molding for cornices and ridge molds on towers, crestings, and crown moldings will be made of No. 26 galvanized iron, the joints riveted and soldered, set true and well secured to the brackets, and made as per full-size details.

IRONWORK.

[Refer to the general clauses and conditions.]

There will be placed over span of corridor wall of hospital building at its transept with vestibule a 10-inch, 25 pounds per foot, wrought-iron beam, having at least 12 inches bearing upon walls, as designated upon plans, the same to rest upon either cast-iron or suitable stone plates.

Wrought-iron wall anchors, at least 24 inches long, with at least 5-inch diameter cast-iron star-shaped heads, firmly attached to ceiling joists, will be placed along the horizontal center line of frieze of all buildings where the same is intersected by the vertical center lines of each and every brick pier; in the wings of the hospital building the anchor straps will be bent at a proper angle to take the ceiling joists parallel; and similar anchors will also be placed in each pier of the dormer windows over corridor, attached to the plates thereof.

In the disinfecting building, wall anchors will also be placed at second-story joists as at frieze.

Cast-iron ventilating grates, 4 by 12 inches, will be placed in the base of all exterior walls midway between floor joists and ground line and under the center of each and every exterior window of all buildings, and also at the same level in the interior foundation walls at such points as are designated upon plans.

There will be two 7-inch, 8½ pounds to the foot, wrought-iron channel beams placed in westerly wall of disinfecting building over kitchen window and door, the same to be shouldered to timber posts beneath and tightly bolted thereto with 1-inch bolts and 3-inch washers, and to bear 12 inches upon walls with suitable plates.

CARPENTERS' WORK.

[Refer to general clauses and conditions.]

All material used in the following work of the various qualities hereinafter specified must be thoroughly seasoned, the best the market affords, and free from splits, shakes, bark edges, sap, or any defects impairing its strength or durability.

All floor joists will be 2 by 10 inches long, leaf yellow pine, spaced 16 inches centers, with at least 3 inches bearing on walls and full bearing on girders. All spans of over 12 feet to be bridged by 1½ by 2½ inch "X" bridging, well nailed with 12-penny nails at such intervals as shall be directed by the inspector of buildings or his representative. Double trimmers, well pinned together, must be framed around all chimneys, fireplaces, and stairway openings.

All girders supporting floor joists will be 6 by 12 inches, prime Georgia pine and halved at joints, all joints to occur upon masonry bearings.

Roof rafters will be 2 by 6 inches, spaced 20-inch centers, and well nailed to wall and ridge poles. Wall plates to be 3 by 4 inches; ridge poles 2 by 8 inches. Ceiling joists will be 2 by 8 inches; roof struts and tie beams 1 by 6 inches, and all well spiked at joints. Over main portion of hospital roof the members of roof will form trusses as shown on plan; the struts will overlap flush with lower edge of ceiling joists, and the whole tightly bolted together with 1-inch-diameter wrought-iron packing bolts, and two 4-inch-diameter washers to each bolt. All roof and ceiling timber to be of bright Virginia pine.

Hip and valley rafters to be 3 by 8 inches, bright Virginia pine.

Studs in frame partition walls will be of bright Virginia pine, as follows:

In hospital building all studs will be 2 by 6 inches; in disinfecting building 3 by 4 inches.

Centers will be provided for all fireplace arches and all brick arches contained in the various buildings.

Roofing.—All roofing to be No. 1 4 by 4-inch narrow Virginia pine, sheathing laid close, each and every board well nailed to every rafter it crosses. There will be 2-inch brackets for galvanized-iron cornices, crown moldings, and roof gutters.

The rafters for lavatory roofs will be 2 by 6 inches, well nailed to ridge poles and plates, and jack rafters will be 2 by 4 inches, shaped and projecting as shown on plan and produced up to and well nailed to rafters and bolted together at their intersections.

Flooring.—The flooring throughout all the buildings will be laid with 2½ to 3½ inch wide prime Georgia pine, tongued and grooved, after the plastering is finished, and faced off with smoothing planes to the entire satisfaction of the inspector

of buildings, ready for oiling. Suitable pockets secured by screws were left over all pipes.

Throughout hospital building and upon the ground floor of the disinfecting building as far back as kitchen, counter flooring of narrow square-edged 4 by 4-inch Virginia pine will be laid diagonally across joists. All flooring will be well driven up and nailed thoroughly.

Windows and window frames.—The window frames will be double-boxed, all sash to be 1½-inch and fitted with best 2-inch axle pulleys, hung and evenly balanced with cast-iron weights and large-sized silver lako cord.

The windows and outside doors of nurses' rooms in hospital, and the windows in dining room of disinfecting building, and those immediately above the same, will be separated by intermediate posts 4 by 6 inches, Georgia pine. The large windows and doorway in the westerly wall of kitchen will have intermediate posts 8 by 8 inches, Georgia pine, to sustain two channel beams above, which will be shouldered and bolted thereto. Said posts will rest fairly upon and be doweled to the stone sills with two iron dowels.

The two windows in the kitchen storeroom will be hung upon suitable hinges and swing inwardly clear of shelving.

There will be two bull's-eye windows, one on either side of front entrance door, the same to pivot upon vertical pivots and have suitable fastenings.

The high windows in lavatories will swing horizontally upon vertical pivots and have suitable fastenings.

Each bottom window sash of all exterior and corridor windows will have two bronzed sash lifts and approved meeting-rail locks.

All windows will have 1½-inch plain chamfered window seats with plain aprons 4 inches wide.

In air chamber over hospital lavatories there will be small slat ventilating windows, as designated on plans, and in small gables of main roof there will be semi-circular slat ventilating windows of at least 18 inches radius inside measurement.

The lavatory windows will have 1½-inch transoms revealing 4-inch molded transom bar externally, as shown upon plans.

Doors and door frames.—The jambs of front entrance door of hospital will be 3 inches thick; all other doors in hospital will have 2-inch jambs.

Front entrance door will have stiles 2 inches thick with upper panels of glass, and four panels below with plain chamfered stiles.

All other outside doors will be 1½ inches with upper panels of glass, molded stiles, and 1½-inch transom. All interior doors will be 1½ inches, five panels each, with molded stiles and 1½-inch transom; all jambs, trim, and doors to be of clear white pine.

All doors will have 5-inch mortise tumbler locks, brass face and bolts furnished with plain bronzed knobs, 3½-inch butts, and transoms pivoted and furnished with approved adjusters.

There will be 1-inch double swinging doors opening from nurses' rooms in hospital upon general wards and corridor, which will have approved reversible spring hinges.

Interior trim.—There will be no interior wood trim in any apartment except a 1½-inch radius skirting molding around the base of each and every apartment having timber flooring.

Lavatories.—The partitions in lavatories will be 5 by 4-inch narrow matched white-pine boards 8 feet high, set into substantial grooved sills and caps having 1-inch five-panel door in bathroom and slat doors in water-closets.

There will be a trapdoor in ceiling of each hospital lavatory 2 by 3 feet, furnished with suitable hinges and fastening, leading to air chambers above.

Dormer windows.—There will be three large double dormer windows, as shown on plans, over corridor of hospital.

The front piers will be of brick, a continuation of the wall below.

The roofs will have 2 by 4 inch purlins securely nailed to 3 by 4 inch plates, and 2 by 5 inch ridge poles, 3 by 7 inch valley rafters, and double trimmers; the studs will be 3 by 4 inches; all of which, together with sheathing and roofing, will be Virginia pine and covered with tin.

The window frames and sashes will be as specified for ordinary windows, except that there will be no projecting seat or nosing beyond the interior corridor wall, and both upper and lower sash will have sockets, with sash hook and 16-foot pole furnished for adjusting windows.

Closets, dressers, and shelving.—The carpenter will furnish and put in all closets, dressers, and shelving with suitable trim of clear white pine, of required dimensions, wherever designated upon plans.

Entrance steps and platforms.—There will be entrance steps and platforms wherever shown on plans. The steps will have 6-inch riser by 12-inch tread, 2-inch carriages and 1½-inch steps and flooring for platforms. Platforms will be lined up from ground with 1-inch uniform-width boards, with ventilating holes bored in geometrical order; all to be of Georgia pine.

Miscellaneous carpentry.—The carpenter will furnish and put up all framework necessary for the plumbing, provide lintels of proper dimensions for all openings in brick walls, furnish and work in all jamb blocks and furring strips required as brick-work progresses, and furnish and put in all material for closets, dressers, steps, shelving, and stationary furniture in lavatories required and wherever shown on plans, all revealed trim to be of clear white pine. In each bedroom in the disinfecting building, a row of at least six snitable hooks attached to white-pine strip will be placed conveniently upon the walls.

TIN WORK.

The entire roof of all buildings will first be covered with one layer of untarred roofing felt and then will be covered with the best redipped 1X charcoal roofing tin, put on with 1½-inch standing grooves, all well fastened down and left perfectly tight.

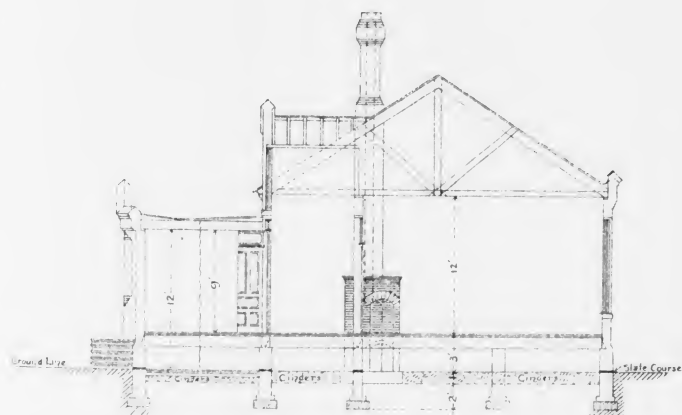
There will be large-sized gutters as shown on plans, and the tin roofing will be flashed up from gutters and well joined and soldered to the galvanized-iron crown moldings and crestings and around the hospital building.

There will be tin flashing around all chimneys and around lavatory walls, and along wall-bearing dormer windows, and wherever required elsewhere.

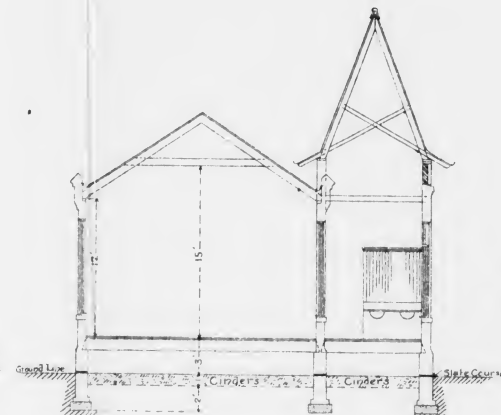
The lavatory gutters will drain into the main roof gutters, and there will be hanging gutters where shown upon disinfecting building.

There will be eight 4-inch diameter down spouts upon hospital building, and three upon disinfecting building, the same to be corrugated iron, and located as shown upon plans; the same to be well secured to buildings with iron hooks.

No acid shall be used in soldering, and roofs shall be guaranteed to remain in perfect repair for the period of one year from date of completion.



TRANSVERSE SECTION
Through A-B

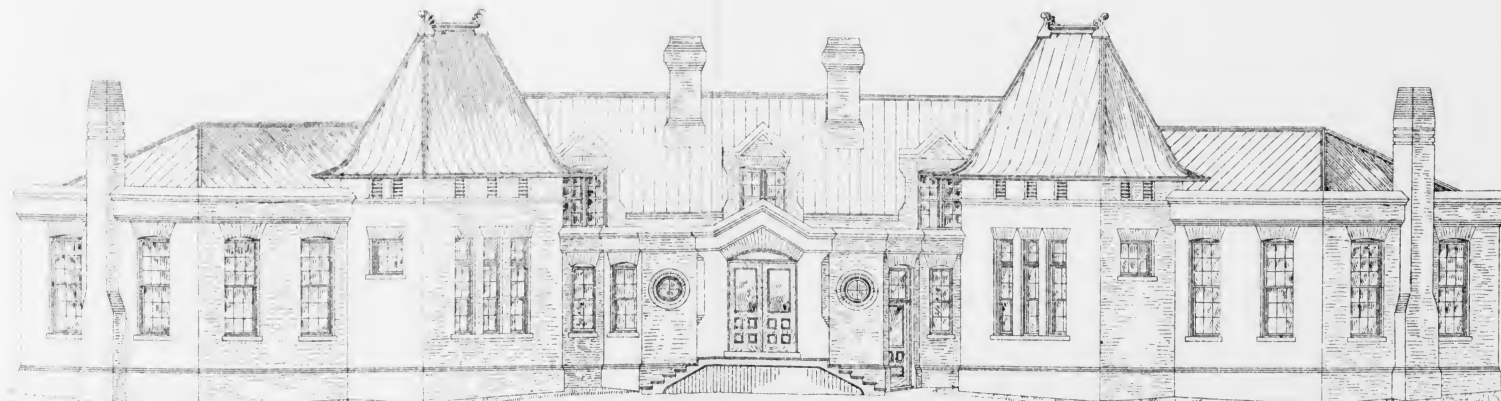


TRANSVERSE SECTION
Through C-D

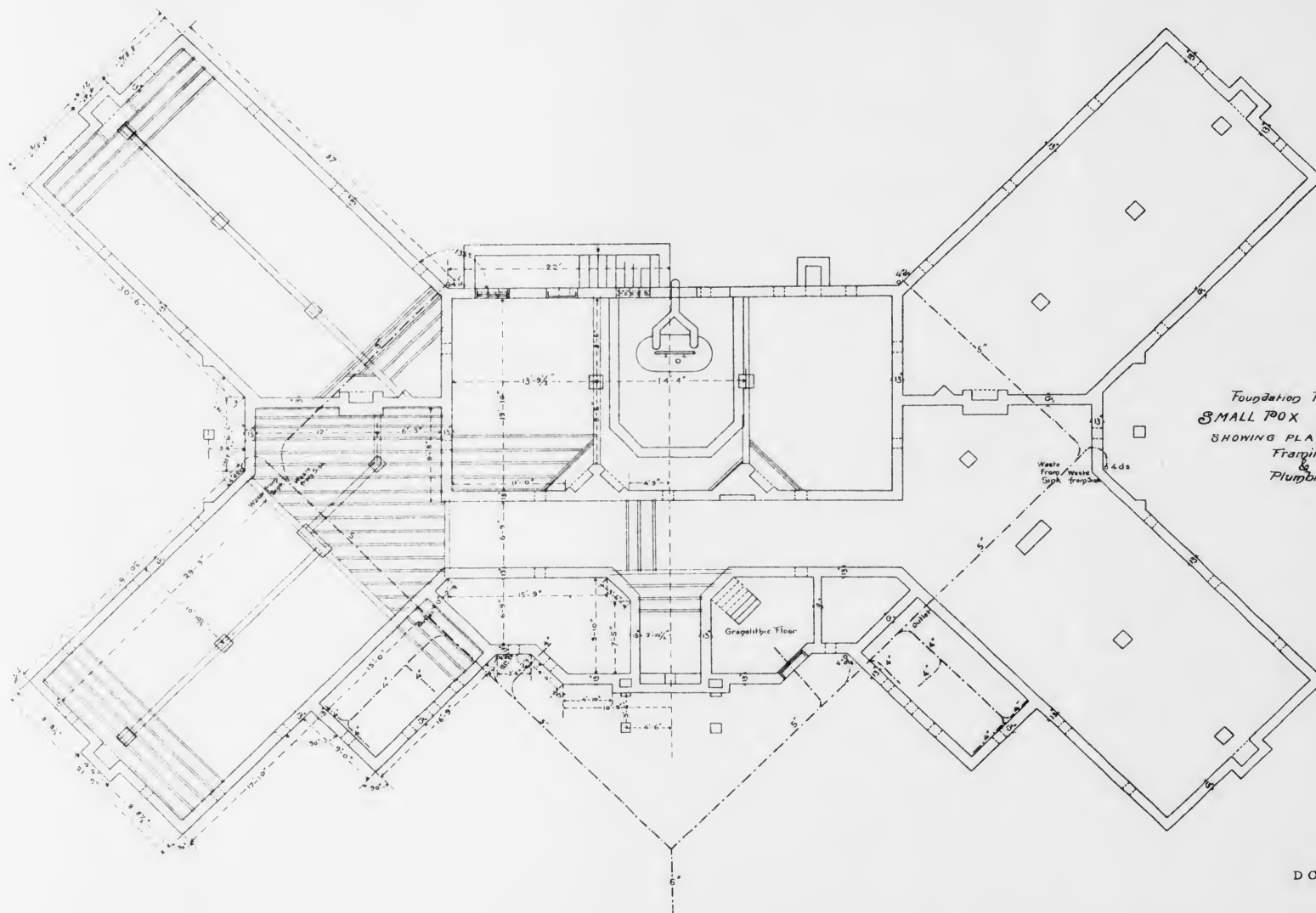
SMALL-POX-HOSPITAL
RESERVATION 13.
WASHINGTON D.C.

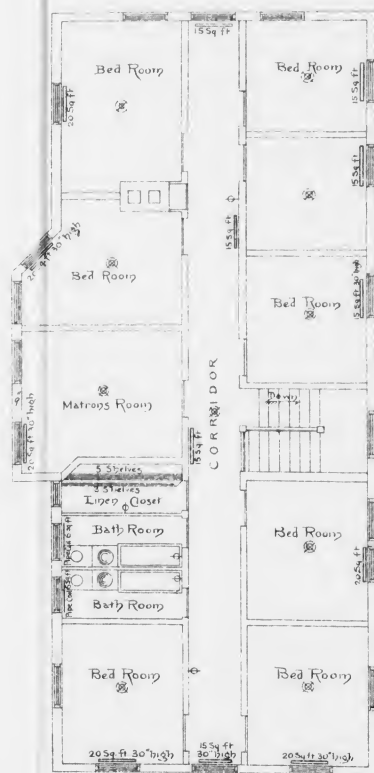
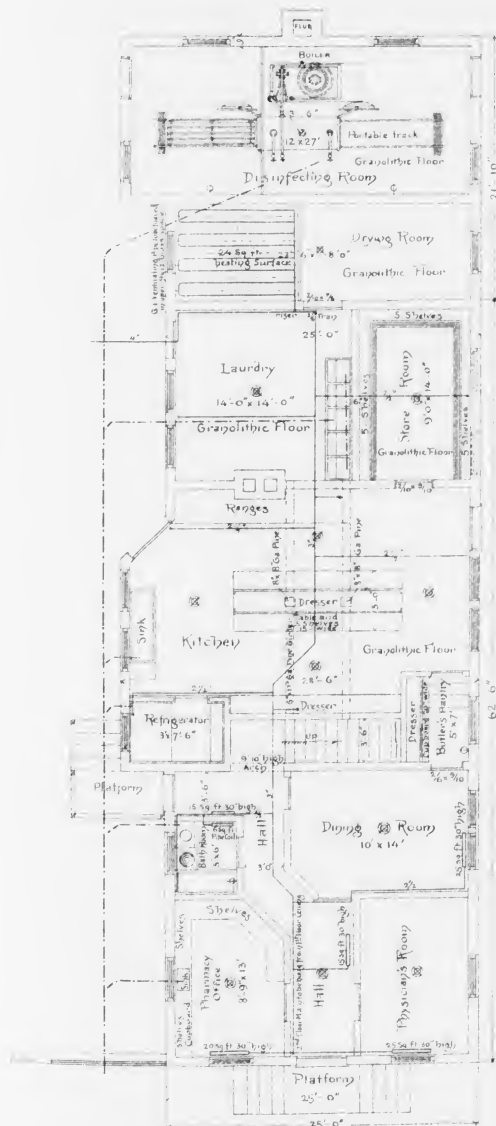
*McDonald and
Hoff*

*approved
Edward Clark
Architect U.S. Capitol*



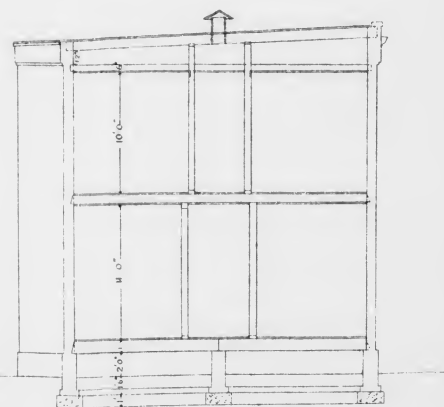
Front Elevation.





SYSTEM OF HEATING FOR ADMINISTRATION BUILDING FROM SMALL-POX HOSPITAL

August 1896



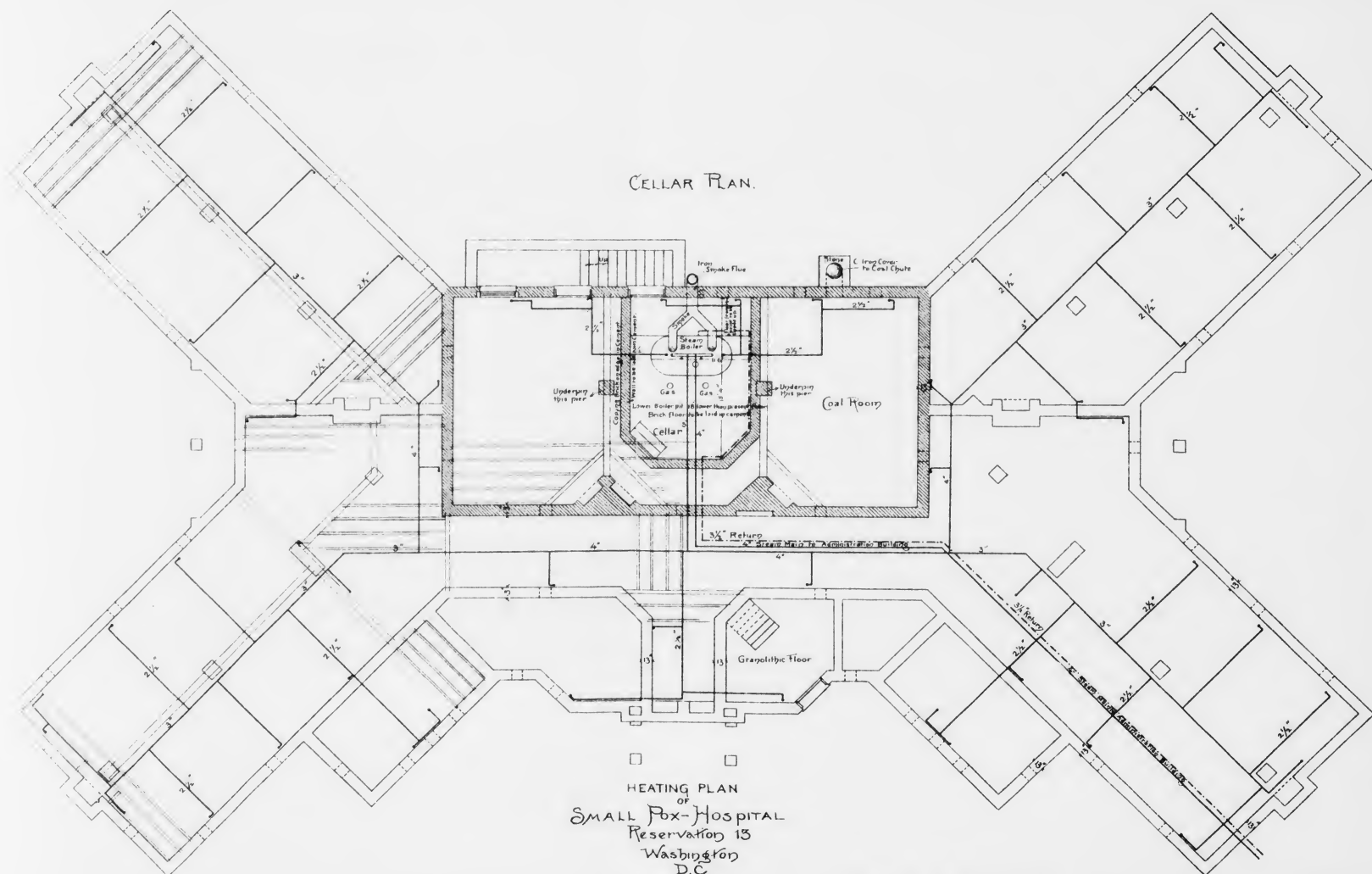
1348 Square feet heating surface

1348 Square feet heating surface



AREA 5525 sq ft
MEAN DIMENSIONS 51' x 108'
ORDINARY CAPACITY 35 BEPS
EMERGENCY CAPACITY 48

CELLAR PLAN.

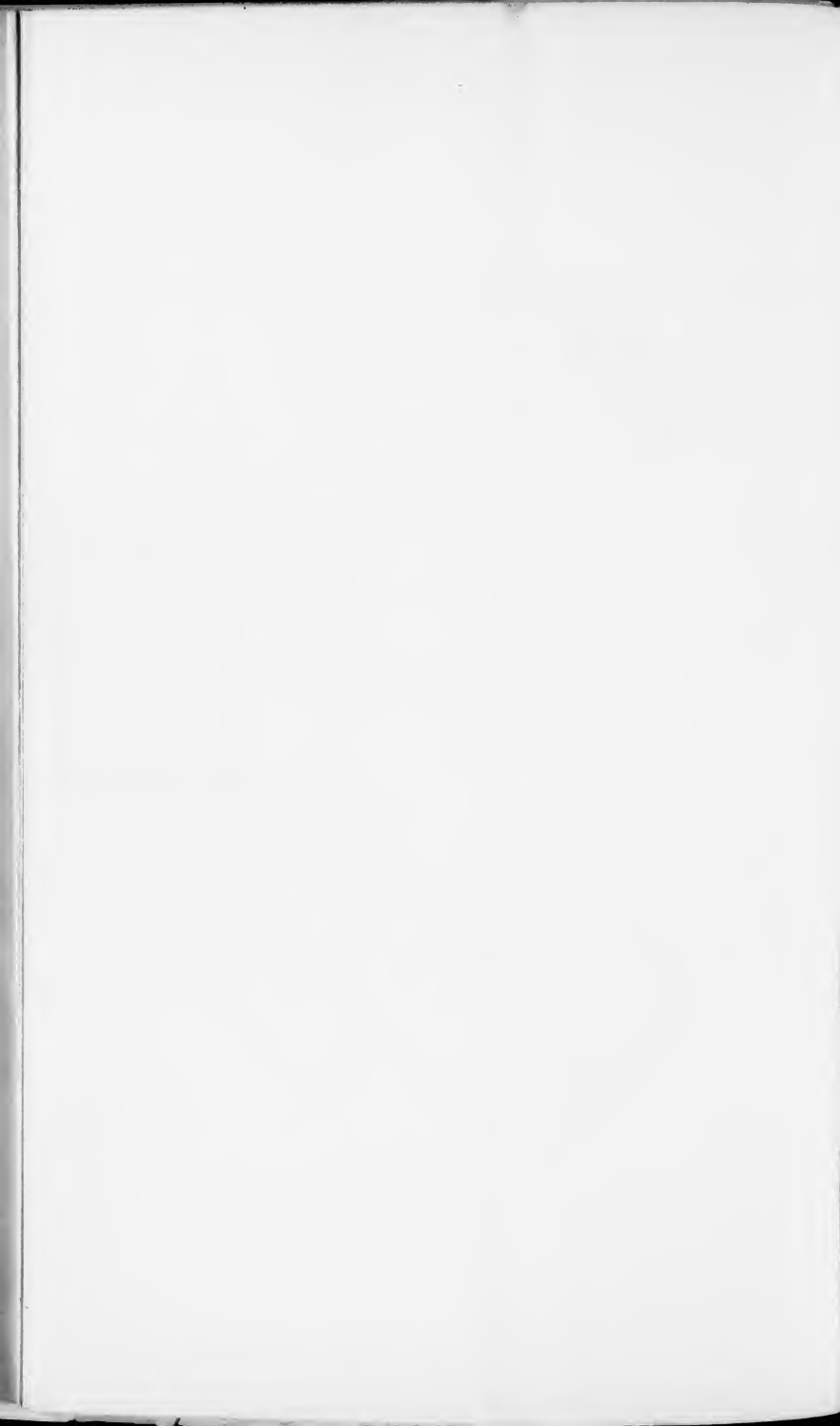


HEATING PLAN
OF
SMALL POX-HOSPITAL
Reservation 13
Washington
D.C.

August 1896.

Walls shown thus  enclose present Cellar.
-  are foundation walls

D C 54 2



SPECIFICATIONS FOR A PROPOSED ISOLATION WARD AT WASHINGTON ASYLUM HOSPITAL.

SPECIFICATIONS.—FOUNDATION AND BRICK WORK.

The site for this hospital is about 40 feet east of the new ward for the Washington Asylum; near the southwest gate. The trenches are to be dug of sufficient width to receive the concrete footings 2 feet wide and 1 foot thick. Concrete composed of one part cement, two parts sharp river sand, and four parts clean egg size broken stone, thoroughly mixed, solidly rammed and compacted. The cement used in this work to stand the customary tests required in District work or withstand a tensile strain of not less than 100 pounds in seven days. Concrete footings under piers that support second story are to be 2 feet 8 inches square and 1 foot thick. Trenches are to be excavated 3 feet deep at the lowest part of the site. The footings will be four courses high of sound arch brick bedded and jointed solidly in cement, and the starting course to be 1 foot wider than the wall above; and each course of footings to rack back 1½ inches on each side. No edging courses allowed and the concrete must be made level on top before brickwork is started. The foundation and cellar walls and piers, to the under side of sill, to be laid with straight, hard-burned, dark-red bricks, bedded solidly and rubbed up to insure filled cross joints. Courses against ground to be laid in cement mortar. A slate course to be inserted at the level of the under side of door sills; and walls against ground to be plastered both sides three-eighths inch thick with Portland cement, put on in two coats and troweled to uniform surface. The walls of cellar or basement, above ground, to be constructed with hard-burned straight bricks laid in the best lime mortar, the head and cross joints to be solidly filled. The walls to be bonded every fifth course, and laid straight and true and perfectly level to under side of sills. Joints to be neatly struck inside and out.

Chimneys will be constructed as shown, flues formed with unglazed terra-cotta pipe incased in brickwork and topped out as shown; and portion above roof laid in mortar mixed in red hematite; topping-out courses laid in cement. Fireplaces and chimney breasts to be faced up in pressed brick, laid with neat tucked joints in mortar mixed with red hematite, and brickwork exposed from floor to ceiling. Mantel shelf supported on corbels of molded brick and formed by slate slab six-fourths inch thick and 8 inches wide. The bricklayer to do all jobbing incidental to his part of the work. The quality of the brick for above work to be of the best hard-burned arch and dark red brick. All light red or salmon brick excluded, and for each and every brick of this kind found in the walls the contractor shall forfeit \$5. All lime mortar to be made of fresh-burnt lime and sharp river sand mixed in proper proportions to secure rich, good mortar. After the brickwork is completed, the necessary amount of earth is to be put in the trenches and solidly rammed and the surplus earth graded as shown on elevation.

STONE WORK.

The doorsills will be 8 by 10 inches by required lengths, and of North River blue-stone; the windowsills will be 5 by 8 inches by required lengths, exposed faces neatly dressed and cut with wash; all of Ohio sandstone. Coping of coal chute and caps of small piers, supportings entrance steps or platforms, to be of bluestone, North River, or equally good, not less than 3 inches thick and 1 inch wider than the walls. Caps on small piers under entrance steps to be cut for dowel at foot of posts supporting platform. Coping properly clamped and leaded.

CARPENTER'S WORK.

All materials used in this work of the various varieties hereafter specified must be thoroughly seasoned, the best the market affords, and free from splits or shakes, bark edges, sap, loose knots, or any defects impairing its strength or durability.

The sills to be 6 by 6 inches, halved at angles.

The plates to be of two 2 by 4 inches, nailed together, and in lengths to break joints, the first pieces securely spiked to end of studs.

Posts at angles and opposite partitions 4 by 8 inches.

Girts or ledger boards to be 1 by 10 inches, let into studs so that floor joists will cut down on them 1 inch.

Braces 2 by 4 inches, window studs 3 by 4 inches, and door studs 4 by 4 inches, and all other studs 2 by 4 inches—16 inches on centers.

Partition caps 3 by 4 inches. Girders in cellar to be of two pieces 3 by 12 inches, spiked together. Beams or girders, under overhang of second story, to be of two 4 by 12 inch pieces, properly keyed and bolted together with seven-eighths inch iron bolts. Floor beams in first floor 2 by 12 inches, second-floor joists 2 by 12 inches, ceiling joists 2 by 10 inches—all 16 inches on centers. All trimmers and headers and joists, running under partitions in same direction, to be doubled and spiked together. Rafters 2 by 8 inches—20 inches on centers. Ridge and hip rafters 4 by 10 inches. Piazza and porch posts 6 by 6 inches, boxed with seven-eighths inch white pine neatly chamfered and provided with cap molding and neck mold, chamfer to start above hand rail and stop below neck mold. Piazza and porch girders 4 by 12 inches, spaced with the posts. Piazza and porch joists 2 by 8 inches and 20 inches on centers. Piazza or porch rafters 2 by 6 inches—20 inches on centers. Piazza and porch sills 4 by 12 inches, notched out 2 inches and notched down 6 inches to receive porch girders, and girders notched down 2 inches to receive porch floor joists, and 1-inch strip nailed on lower part of girders to catch joists, the large porch posts under overhang of second story to be built of four 3 by 4-inch studs, properly cross braced with seven-eighths by 5 inch rough stuff, and neatly boxed with 1½-inch clear white pine, thoroughly seasoned and finished with neck and cap as shown. Roof rafters to be assisted by 6 by 6 inch purlins and uprights from ceiling joists and partition caps.

The porch posts, wall plates, partition caps, soles and braces, and standing timber to be of best quality thoroughly seasoned white pine; all other framing timber, floor joists, ceiling joists, roof rafters, girders, beams, and lintels to be of good sound long-leaved yellow pine, free from large or loose knots, wane pieces, shakes, or imperfections that may impair the strength.

Framing.—The building is to be full frame, braced and pinned in the best and strongest manner, perfect, true, and plumb. No woodwork to be placed in the brickwork of chimneys, and all framing timbers at least 2 inches from outside of chimneys, and no nails to be driven into chimneys. The underside of sills to be painted two heavy coats before setting. The first-floor joists to be notched into sill 2 inches with bottom of joists flush with bottom of sill and securely spiked. Joists of second floor to be notched down on girts and spiked to them and the studs and sized 1 inch on partition caps. Headers to be framed into trimmers with tenon and securely pinned and spiked. All floors to be bridged once in every 8 feet with cross bridging of 1 by 3 inch pieces, with two nails at each end of each piece.

Piazza and porch.—Framed with 4 by 12 inch girder from each post or pier to the house, with top of girders 1 inch below top of floor joists and pitching away from the house 1½ inches. Each girder to be gained 1 inch into sill and spiked to side of floor joists and studs. The porch joists 2 by 8 inches will be framed into these girders 20 inches on centers and flush on top, porch plate to be framed into posts and the rafter notched upon the plate and spiked and firmly secured to studs and house. Form the cornice as shown with planceer, fascia, bed mold, and gutter, all of white pine, and down spout where directed to be connected with drain or sewer.

Walls.—Inclose the walls with good Virginia pine boards planed on one side to even thickness, and put on diagonally to come up close around windows and doors and sawed off even at top of plate. Cover these with two thicknesses of sheathing paper, the first thickness of felt paper and the second water-proof sheathing—lapped-joints. Cover with first quality rustic siding not over 5 inches wide, laid to even gauge and nailed to each stud with nails set for puttying.

Flashings.—Put strips of zinc 3 inches wide around all window and door casings and turn down and tack over casings and run up under weatherboards.

Belt courses.—The water table and belt courses to be of 1½-inch pine and of the width shown on drawings. Water table beveled on upper edge and mitered at corners. Belt courses plowed and rebated to work in with siding. Water table formed as shown on inch-scale drawing.

Casings and corner boards.—All corner boards, door and window casings to be 1½ inches thick and of widths shown on drawings, all of good thoroughly-seasoned pine, rebated on top edge.

Cellar door over coal chute.—Make batten doors of hard pine, hinged with heavy strap hinges. Frame built into wall and made of 3 by 12 inch hard-pine pieces.

Outside steps.—To have seven-eighths-inch pine risers and 1½-inch rift hard pine treads, with rounded nosings returned at ends on three 2 by 12 inch yellow pine strings, outside ones boxed or cased with white pine, and lower edge of casing to have bead. Other strings dressed all sides, and risers and treads dressed both sides.

Priming.—The carpenter is to see that all work is primed as soon as it is put up, and any work warped or cracked is to be replaced.

Floors.—All floors first laid with four-fourths-inch tongue and groove counter floors of even thickness and not over six inches wide, and this to be covered with one thickness of deadening felt or floor-sheathing paper. Finished floors to be laid over this after all plastering is finished and rooms are cleaned out. Finished floors to be of seven-eighths-inch first quality hard pine (No. 1 Georgia pine) not over 3 inches wide, free from any defects that may impair its durability or appearance. The floors are to be planed and dressed just before the building is turned over for inspection.

Partitions.—Of 2 by 4 inch studs, 16 inches on centers. Try with straight edge and straighten and bridge before plastering. Where one partition comes over another the studs to stand on partition cap and not on floor joists. Truss over openings that extend to second story and truss openings that carry floor joists or partitions. The partitions of first story to have two rows of angular bridging of 2 by 4 inch pieces set in and well nailed and reverse the direction in second row. Second-story partitions bridged with one continuous row.

Centers and lintels.—Wooden lintels and centers are to be provided for all arches and fireplaces and those in fireplaces are to be removed after mortar is thoroughly dry.

Interior trim.—There will be no interior wood trim except a 1½-inch radius skirting molding around the base of each room and 10-inch base cut down on stairs. Blocks or nailing strips to be inserted back of laths in weight boxes to take the place of inside trim. The junction of plaster and frames to be covered with 1½-inch half-round strips mitered at corners and base.

Doors.—All outside doors will be 1½ inches thick, raised and molded both sides, and all inside doors 1½ inches thick, of clear white pine. Sash doors in cellar and at head of stairs to have one-eighth-inch ribbed or frosted glass panel as shown on drawing. All doors to have 1½-inch rebated and beaded frames and molded transom bars and five-eighths-inch hard pine carpet strips. Make allowance in width of door jams and window frames for the seven-eighths-inch diagonal sheathing and three-fourths-inch plaster. Transoms over outside doors only, and at head of stairs.

Windows.—All windows except the small circular windows in bathrooms and closets are to be double hung, 2-inch sills, hard pine pulley styles and beads. Sash 1½ inches thick, of clear white pine, with molded sash bars and counterchecked meeting rails hung with best steel-axle brass or bronzed faced pulleys, and perfectly balanced and hung with best quality Silver Lake sash cord. Small windows in bathrooms and closets provided with pivots so as to swing in at top, and also provided with hook for fastening when open and spring catch to lock when shut. Small windows between nurses' duty rooms and wards to be fixed with stop bead each side of sash. Louvre windows and ventilators in gables and roof to be of best white pine with 1½-inch outside casing, thoroughly secured from leaking by necessary tin strips.

Miscellaneous carpentry.—Make dresser and shelves for nurses' duty rooms as shown on drawings. Secure the grounds for pipes and plumbing fixtures and repair all damage. Put up a 5-inch board with eight clothes hooks in each of the nurses' bedrooms. The space back of balustrade of porch to be provided with panel back 1½ inches thick, and extending from floor of porch to cap of hand rail and provided with bolts at top and bottom so that it may be removed in summer. The space from hand rail to under side of plate to be inclosed with sash secured with bolts. Put stop knobs with inserted rubber behind all doors.

Stairs.—The outside steps formed as specified hereinbefore, and hand rail, balusters, newels, and posts as per drawings. The inside stairs to be carried on three 3 by 12 inch rough carriages, and seven-eighths-inch risers, 1½ treads of hard pine rounded nosings, and hoisted into walls and base cut down on stairs, the treads plowed into the risers and risers plowed into the underside of treads, 2½ by 3 inch oak hand rail secured to wall on one side with iron brackets. Newel posts and hand rail on portion of steps projecting on porch, and spandrels filled with tongue-and-grooved stuff and molding broken around. The portion of stairs that projects onto porch to have boxed carriages, rounded nosings returned at ends. Risers and treads to be plowed for base against wall. One and one-fourth plain fillet balusters mortised into treads and rails. Main roof and porch roof covered with 1-inch sheathing not more than 8 inches wide and nailed to each rafter; planed on one side to even thickness and laid with close joints. Ceiling of porch and under part of second story overhanging to be ceiled with seven-eighths-inch tongue and groove not over 4 inches wide.

Roofing.—The entire roof will be covered with one thickness of untarred roofing felt and then will be covered with the best redipped IX charcoal roofing tin, put on with standing grooves and well secured to roof, and guaranteed for one year to be perfectly tight.

Form gutters, as shown on plans, with tin formed and soldered in gutters and to down spouts.

Flash up well around all chimneys and windows in roof and furnish carpenter with proper strips for window and door heads. There will be four 4-inch galvanized down spouts from main roof, and four from other roofs, two on each side of building.

Furnish and put up two galvanized-iron ventilators, 12 inches in diameter and similar to "star" pattern.

Plastering.—The plasterer is to try all partitions and ceilings, and to notify the carpenter of all that are not level and plumb, and see that they are corrected before lathing, as any uneven surfaces after the plastering is finished will be chargeable to the plasterer.

Lath and plaster cellar ceiling one heavy coat. Lath and plaster two coats elsewhere throughout. Laths to be securely put on with three-eighths-inch key, and to be thoroughly seasoned pine and free from knots and stains or dirt, and to break joints over doors and windows in every sixth course. Plaster composed of clean, sharp, down-river sand and fresh burnt Washington lime, and live long hair mixed in proper proportions. In plastering, no acute angles shall be made in any part of building, all interior angles of walls and ceilings shall be concaved or coved at a 4-inch radius, and external angles convexed or rounded on 3-inch radius, so that no crevices nor crannies shall occur in any part of said building. All plaster to be mixed and thoroughly slacked and stacked three weeks before using. The first coat to be thoroughly dry before second coat is applied. The finish coat, or white coat, to be brought to a perfectly level or even surface. The plasterer to go over the work when other work is finished and repair all blemishes.

PAINTING AND GLAZING.

The undersides of sills to be painted as specified herein. All outside woodwork will have four coats of best white lead in linseed oil, tinted as directed. All work to be primed as it is put up. All inside woodwork and ceiling of porch to have three coats, sandpapered after second coat, last coat tinted as directed and finished with one coat of varnish of best quality.

All woodwork to be well puttied after prime coat. All floors, including porches, to have a coat of Crocket's or equally good "Spar" composition or waterproof varnish over one coat of pure oil.

All tin and galvanized-iron work to have two heavy coats of metallic roof paint, and down spouts two extra coats of paint to match the body color of walls.

Treads of stairs treated the same as floors; and risers painted as the other inside work. Varnish all exposed pipes with one coat of white shellac. Keep all hardware free from paint.

The glass for all windows and transoms to be of first quality French cylinder, single thick, properly tinned, and putty tinted to match sash color. Glass in sash doors to be ribbed or ground.

HARDWARE.

All doors to be hung on 4 by 4 inch loose-pin butts, two to each inside door and three to each outside door. All doors to have 5-inch mortised locks with brass face and striking plate and brass bolts. No two keys to be alike. All doors provided with fancy bronze knobs and escutcheons and roses. Bathroom doors to have in addition 4-inch brass bolts and keepers. Dresser doors to have brass slip latches and small wooden knobs. Each window to be provided with sash lifts and sash fasteners of the strongest kind. At least eight japanned cast-iron clothes hooks in each bedroom. Seven-eighths-inch iron bolts and nuts for the built girders supporting second story. Japanned transoms pivots and latches and galvanized hooks for small windows in closets and bathroom. And all necessary hardware of the most suitable kind for the respective purposes according to directions of the superintendent or the inspector of buildings. Also strap hinges for doors over coal chute and staples and padlock for same.

Steam fitting, piping.—Furnish and run a 3-inch main to wings of the building, as marked on plans, horizontal mains to grade downward and be drained at all points where size is reduced or grade changed.

Lateral mains.—Lateral or cross mains to be 2 inches and valved.

Vertical mains.—Vertical mains to be 1½ inches to first floor and 1 inch to second floor. All vertical mains to be bled back to returns by one-half-inch pipe. No rigid connection to be made, must be yoked.

Returns.—Returns to be one size smaller than steam mains and are to grade down toward the boilers. The vertical returns to be three-fourths inch from the second and one inch from the first floor, return pipes to be run on the walls, and not under the ground. A blow-off connection must be cut in the return. This drain-pipe must be properly valved.

Valves in piping.—Place a 3-inch controlling valve in main; also a 3-inch pressure reducing valve. The 2½-inch return is to be controlled by a 2½ inch swing and a 2½-inch gate valve. All Jenkins Bros.' Diamond trade-mark. A low-pressure steam gauge must be placed in main inside of the building.

Radiators—direct—indirect.—Bundy Columbia, Standard Radiator Company, American Radiator Company perfection cast-iron sectional radiators will be used and placed where marked on plans, and of the sizes indicated, and make all necessary connections.

Bronzing and painting and covering.—All radiators and exposed pipes to be bronzed with best gold bronze. Mains in basement to be covered with Manville magnesia or H. W. Johns Manufacturing Company sectional pipe covering.

Valves for radiators.—Radiators to be connected with N. P. Jenkins Bros. wooden wheel union angle valves, 1 inch on steam and three-fourths inch on return.

Air valves.—Radiators to be furnished with Jenkins Bros. N. P. air valves, or Van Auken duplex perfection.

Floor, wall, and ceiling plates.—Pipes passing through floors, walls, partitions, or ceilings to be trimmed with suitable plates and metal tubes, as best suits the surroundings and location.

Hangers.—All horizontal mains to be supported by Hanna ball-joint pipe hangers.

The plans are to be considered a part of the specifications, and the contractor will be required to complete the work in every particular, whether the particular items are specified or not; furnish and run all necessary steam and return mains, risers, and connections. All pipe and fittings used to be of the best quality and free from all imperfections. All piping to be filled with water and tested to 100 pounds per square inch and made tight at that pressure before being painted; main in basement to be painted black before being covered.

Air ducts.—The direct-indirect radiators to be furnished with air through tin air ducts made of 1X cross tin, the ducts to be 3 by 12 inches, and are to be protected by a cast-iron perforated frame securely fastened to the duct and woodwork. All ducts to be fitted with valved and lever handles to control the flow of air through the ducts.

All cross mains and bleeders to be valved.

PLUMBING AND GAS FITTING.

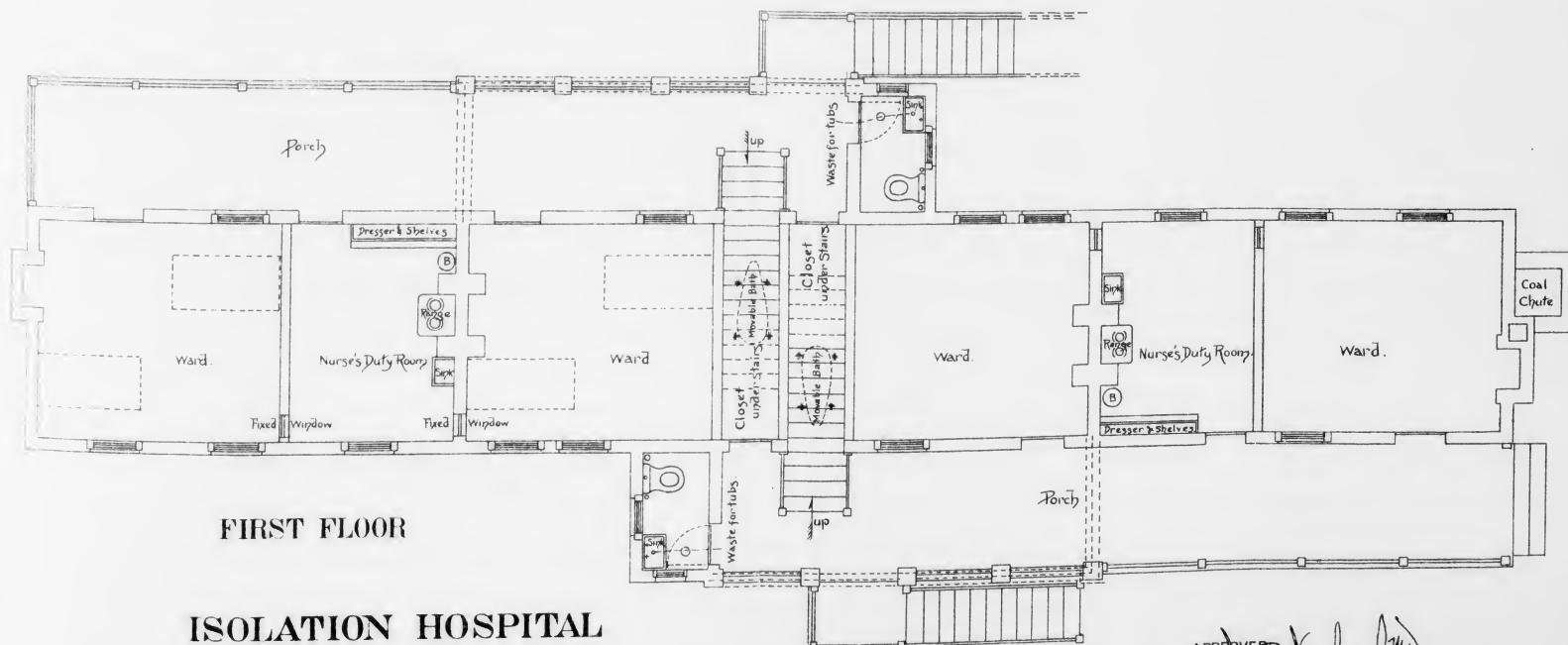
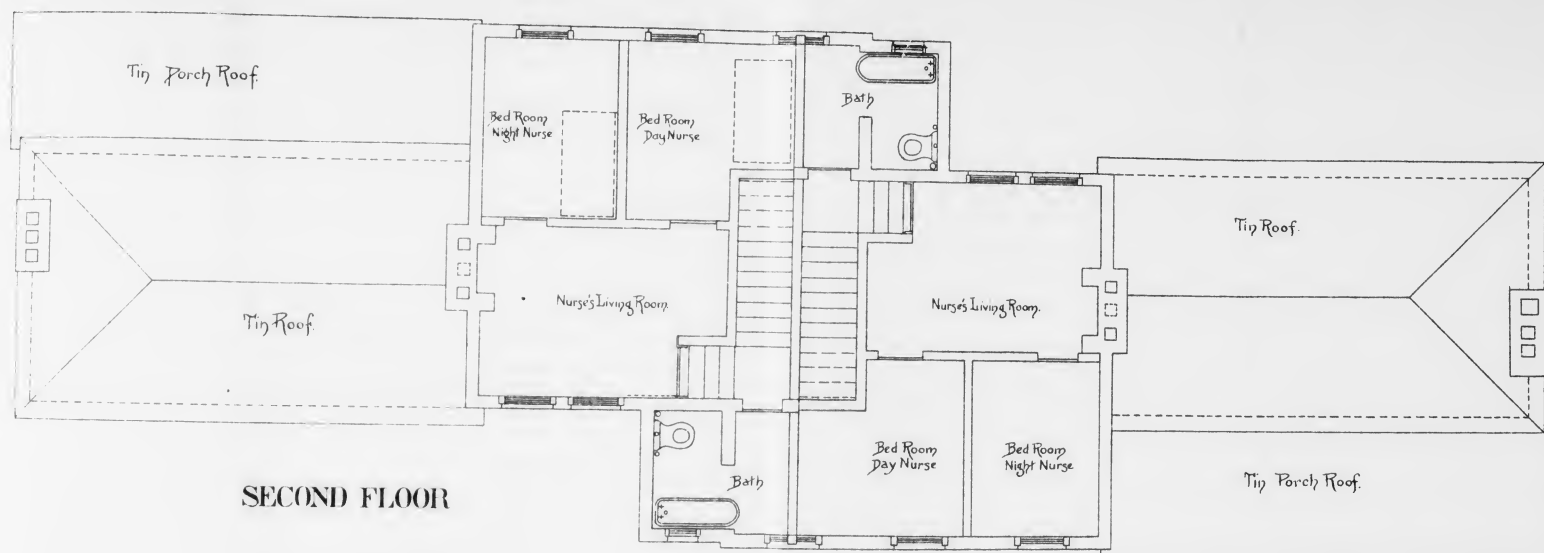
Plumbing.—Connection to be made with sewer near building with 6-inch cast-iron pipe and carried into building of sufficient depth to drain fixture in basement and branched for flat traps in floor and to locality of soil pipes to bathrooms and water-closets. All horizontal pipes to be 6 inches, all vertical pipes to be 4 inches. The sewer to extend with 5-inch iron pipe to rain pipes and to be 5 feet above the surface of the ground. All pipes in the building to be of iron and well leaded and calked. All portions of the sewer and fixtures to be ventilated and tested as required by the plumbing regulations. The water-closets to be plate 131-g, Mott's catalogue or equal. The bath tubs to be plate, 1,066-g, Mott's "not decorated," or Clow's catalogue, fig. 1,094 or equal, with plain exterior and fitted with five-eighths inch Fuller bath bibbs for hot and cold water. All fixtures to be trapped and connected in the best manner. The water is to be brought in building by a 1½-inch lead pipe and is to be distributed to the several fixtures with lead connections and brass thimbles. A stopcock and box is to be placed on service pipe near its entrance to building. All cocks to be of approved make and nickel plated. The hot water boiler to be of 80-gallon capacity, and is to be of galvanized iron and supported on stand, and is to be connected to the range with lead connections and brass spuds and couplings. Sinks to be 32½ by 16 by 6 inches, plate 586-g, Mott's catalogue or equal, and are to be porcelain lined and supported on brackets. The plumber will be required to ram the earth in filling the trenches and leave the surface in perfect order. The water-closets to be fitted with copper-lined tank, 8-gallon capacity siphon, tank boards, seats and backs. All work to be approved by the inspector of buildings before being accepted. Slop sinks to be 501-g, Mott's catalogue or equal. Waste basins to be 14-inch countersink marble slab with 14-inch oval bowls. Basin slabs to be supported by N. P. brackets. Basins to be fitted with N. P. compression cocks and supplied with hot and cold water, and are to have suitable chain stay, etc.

Gas fitting.—Gas pipe to start from locality of meter with a 1½ inch pipe and carried for outlets as marked on plans and properly graded and proved. Furnish the necessary two light pendants and brackets as marked on plan. The gas fitter to pay all gas company charges for service-pipe connections and permits; also connect the meter.

Proposals for constructing a frame building for health department, opened March 23, 1896.

Bidder.	Price.	Bidder.	Price.
Pararini & Greer.....	\$6,396	Jas. M. Dunn.....	\$6,895
G. Thomas & Son.....	6,607	J. J. Quinn.....	8,600
Thos. E. Cabell.....	6,750	D. F. Mockabee.....	7,698
P. McCartney.....	6,700		

The lowest bid being in excess of the amount available for the erection of this building, no award could be made.



ISOLATION HOSPITAL

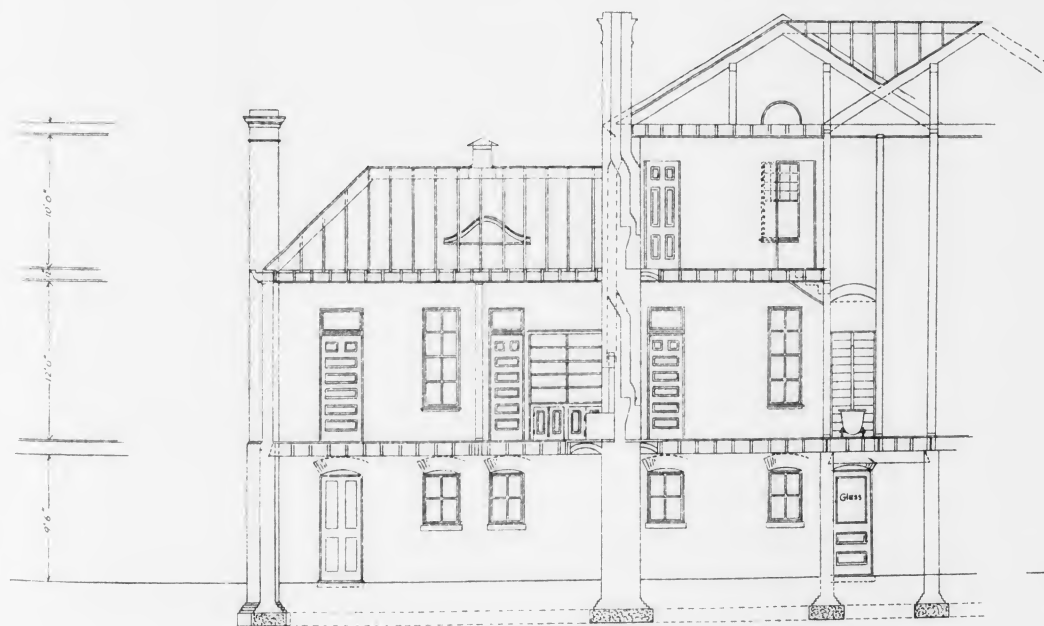
WASHINGTON, D.C.

RESERVATION N°13.

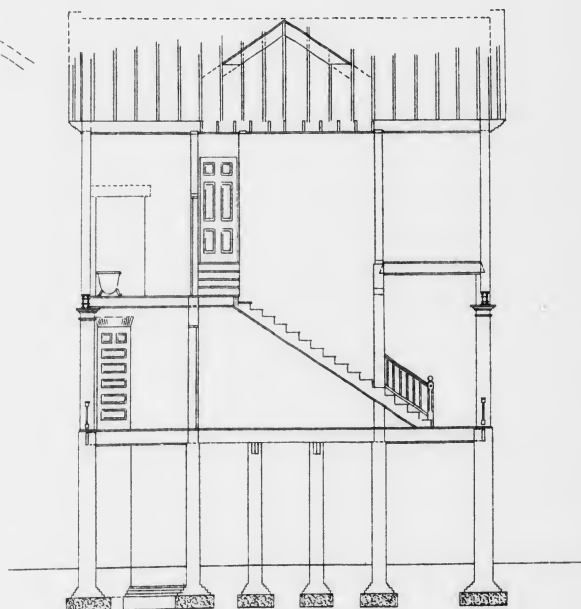
OFFICE OF
INSPECTOR OF BUILDINGS
JAN' 1896

APPROVED
John C. Woodward
HEALTH OFFICER.

D C 54 2



HALF LONGITUDINAL SECTION.



CROSS SECTION.

ISOLATION HOSPITAL

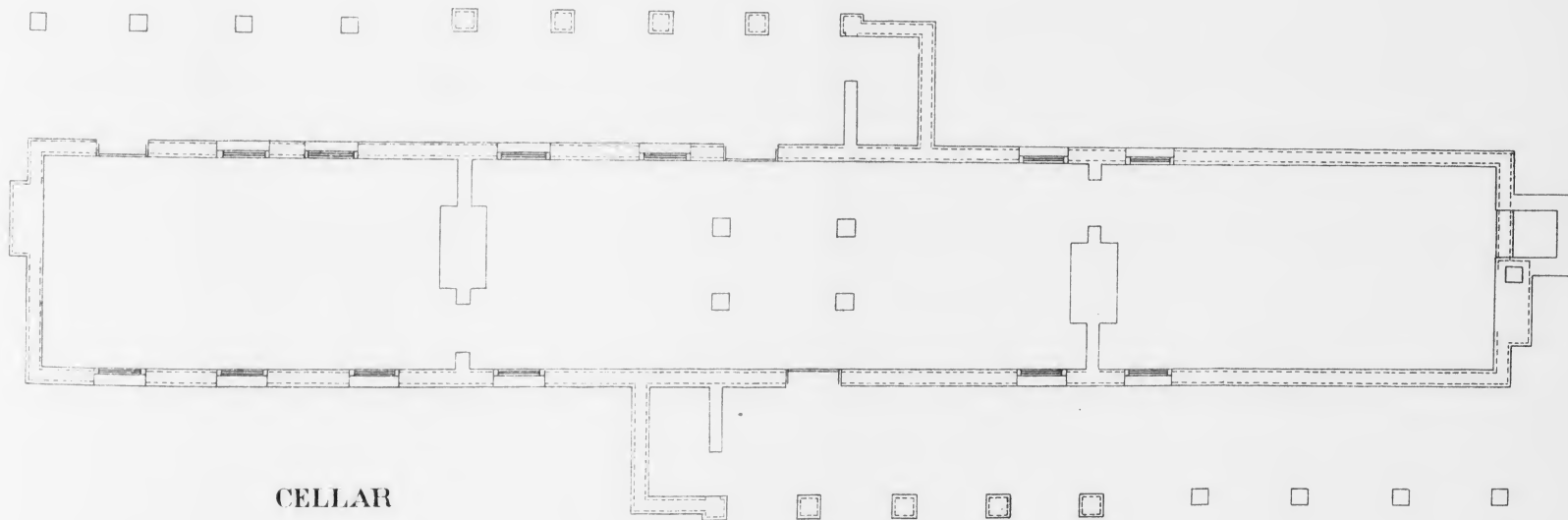
WASHINGTON, D.C.

RESERVATION No 13.

OFFICE OF
INSPECTOR OF BUILDINGS
JAN' 1896

APPROVED
St. J. Woodard M.D.
HEALTH OFFICER.

D 0 54 2



CELLAR



ISOLATION HOSPITAL

WASHINGTON, D.C.

RESERVATION No 13

OFFICE OF
INSPECTOR OF BUILDINGS
JAN 1896

APPROVED
W. C. Woodward
HEALTH OFFICER.

D C 54 2



ISOLATION HOSPITAL

WASHINGTON, D.C.

RESERVATION N°13.

OFFICE OF
INSPECTOR OF BUILDINGS
JAN 1896

APPROVED
St. Woodward M.D.
HEALTH OFFICER.

D C 54 2



APPENDICES
TO THE
REPORT
OF THE
HEALTH OFFICER
OF THE
DISTRICT OF COLUMBIA.

TABLE I.—Showing total number of deaths occurring in the District of Columbia, arranged by classes, orders, sex, color, months, quarters, age, nativity, and social relations, with percentages of death rates, for the year ending June 30, 1896.

Cause of death.	Total deaths from each cause.	Per cent of each cause to total mortality.	DEATH RATE.		RECAPITULATION.										1895.							
			Deaths per 1,000 inhabitants.		Total by color and sex.					Total by color.			Total by sex.			July.			August.			
			W.	C.	W.		F.		C.	W.	C.	M.	F.	M.	F.	W.	M.	F.	W.	M.	F.	
					M.	F.	M.	F.														
CLASS I.—ZYMOTIC DISEASES.																						
Order 1.—Miasmatic.																						
Measles.....	70	1.19	.15	.44	16	15	17	22		31	39	33	37		1							
Scarlet fever.....	13	.22	.06	.04	5	5	3	6		10	3	6	7		1							
Diphtheria.....	75	1.28	.35	.10	39	27	3	6		66	9	42	33		2							
Group.....	9	.15	.04	.02	5	2	2			7	2	7	2		1							
Whooping cough.....	22	.37	.07	.12	5	7	6	4		12	10	11	11		1							
Typhoid fever.....	228	3.86	.73	1.02	78	60	45	45		138	90	123	105		2							
Typho-malarial fever.....	12	.20	.03	.08	2	3	3	4		5	7	5	7		1							
Intermittent fever.....	8	.14	.01	.07	1	1	3	3		2	6	4	4		1							
Remittent fever.....	22	.37	.05	.15	6	3	9	4		9	13	15	7		2							
Congestive chills.....	5	.08	.01	.04			2	1		2	3	3	4		1							
Malarial fever.....	37	.63	.12	.36	16	7	4	10		23	14	20	17		1							
Group.....	53	.90	.14	.30	11	15	9	18		26	27	20	33		3							
Erysipelas.....	11	.18	.04	.05	4	3	3	1		7	4	7	4		1							
Septicæmia.....	6	.10	.03	.04	1	2	3	3		3	3	2	4		2							
Pæmia.....	7	.11	.02	.04	2	2	2	1		4	3	4	3		1							
Diarrhea.....	89	1.50	.18	.02	25	9	30	25		34	55	55	34		4							
Dysentery.....	48	.82	.15	.22	13	15	13	7		28	20	26	22		3							
Enterocolitis.....	107	1.82	.38	.38	35	21	13	73		34	59	48	11		5							
Cholera infantum.....	217	3.70	.50	1.37	42	55	80	40		97	120	122	95		2							
Cholera morbus.....	7	.11	.03	.02	1	4	2	5		5	2	1	6		1							
Carbuncle.....	6	.10	.04		5	1	1			6		5	1		1							
Catarrhal fever.....	1	.01	.01				1			1		1			1							
Varicella.....	1	.01	.01				1			1		1			1							
Total miasmatic.....	1,054	17.85	3.15	5.28	315	275	255	209		500	464	570	484		39							
Order 2.—Euthetic.																						
Syphilis, congenital.....	24	.41	.04	.19	3	4	5	12		7	17	8	16		1							
tertiary.....	3	.05		.04			3	3			3		3									
Total euthetic.....	27	.46	.04	.23	3	4	5	15		7	20	8	19		1							

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1893.												1896.		
	September.			Total first quarter.			October.			November.			Total second quarter.		
	W.	F.	C.	W.	F.	C.	W.	F.	C.	W.	F.	C.	W.	F.	C.
CLASS I.—ZYMOTIC DISEASES.															
Order 1.—Miasmatic.															
Measles.....	1	2	1	1	2	1	1	2	1	1	2	1	1	2	4
Scarlet fever.....	3	1	1	6	4	1	3	5	3	1	4	3	3	1	1
Diphtheria.....	1	1	1	3	4	1	1	1	1	1	1	1	2	3	6
Croup.....	1	2	1	3	4	2	3	1	1	1	1	1	1	1	1
Whooping cough.....	15	14	15	12	24	25	23	23	15	9	8	7	5	4	10
Typhoid fever.....	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1
Typho-malarial fever.....	1	1	2	1	2	2	2	1	1	1	1	1	1	1	1
Intermittent fever.....	1	2	1	2	5	2	3	1	1	1	2	1	1	1	1
Remittent fever.....	2	2	4	6	2	1	4	6	2	2	2	1	1	1	1
Congestive chills.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Malaria (fever).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Indolent (grippe).....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Erysipelas.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Septicæmia.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pyæmia.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diarrhea.....	3	6	5	11	3	14	18	2	4	3	1	4	1	6	3
Dysentery.....	1	1	2	9	7	8	5	3	2	1	1	1	1	3	2
Enterocolitis.....	3	6	5	3	22	24	15	7	2	4	1	2	1	4	6
Cholera infantum.....	9	6	9	2	27	37	62	28	4	4	3	1	1	4	4
Cholera morbus.....	2	2	4	1	1	1	1	1	1	1	1	1	1	2	1
Carbuncle.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Catarrhal fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Varicella.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total miasmatic.....	42	31	41	31	119	114	137	100	48	37	24	18	20	10	11
Order 2.—Euthetic.															
Syphilis, congenital tertiary.....	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1
Total euthetic.....	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1

TABLE 1.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.																		Total under 5 years.	Per cent of each cause to total number of 5 years of age.	
	Under 1 year.			1 to 2 years.			2 to 3 years.			3 to 4 years.			4 to 5 years.			W.	C.				
	W.		C.	W.		C.	W.		C.	W.		C.	W.		C.						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.			F.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.			F.			
CLASS I.—ZYMOTIC DISEASES.																					
Order 1.—Miasmatic.																					
Measles.....	6	3	6	6	4	4	5	4	4	1	2	4	2	1	1	16	10	14	18	58	2.77
Scarlet fever.....	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	2	4	1	1	8	3.39
Diphtheria.....	4	1	1	1	8	3	1	6	4	1	1	6	5	3	1	29	17	3	2	51	2.46
Croup.....	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	5	7	6	4	22	1.53
Whooping cough.....	4	5	5	2	1	1	1	1	1	1	1	1	1	2	1	2	2	5	4	11	.04
Typhoid fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Typho-malarial fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Intermittent fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Remittent fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
(Congestive) chills.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Malarial fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Influenza (grippe).....	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Erysipelas.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Septicæmia.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Pyæmia.....	11	5	23	15	4	1	1	5	1	1	2	15	6	26	1	15	6	26	20	67	3.20
Diarrhœa.....	4	5	4	3	3	1	1	1	1	1	1	1	1	1	1	7	7	6	4	24	1.15
Dysentery.....	29	21	16	13	5	11	2	1	1	1	1	1	1	1	1	34	33	20	13	100	4.78
Enterocolitis.....	42	51	80	40	4	1	1	1	1	1	1	1	1	1	1	42	55	80	40	217	10.37
Cholera infantum.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Cholera morbus.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Carbuncle.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Catarrhal fever.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Varicella.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Total miasmatic.....	104	95	140	85	28	26	13	13	12	8	8	6	14	13	7	164	152	172	108	596	28.47
Order 2.—Etiætic.																					
Syphilis, congenital.....	3	1	5	10	1	1	2	1	1	1	1	1	1	1	1	3	2	5	12	22	1.05
tertiary.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.04
Total etiætic.....	3	1	5	10	1	1	2	1	1	1	1	1	1	1	1	3	2	5	12	22	1.05

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or widower.			Unknown.			District of Columbia.				Other parts of United States.				Foreign.			
	W.	F.	C.	W.	M.	F.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.
CLASS I.—ZYMOTIC DISEASES.																		
Order 1.—Miasmatic.																		
Measles.....																		
Scarlet fever.....																		
Diphtheria.....																		
Croup.....																		
Whooping cough.....																		
Typhoid fever.....	1	3	3				26	31	23	37	23	1	2	1	1	3	1	3
Typho-malarial fever.....																		
Intermittent fever.....																		
Remittent fever.....	1	1	1				3	1	5	2	2	2	1	4	2	1	1	1
Congestive chills.....																		
Malarial fever.....	2		5				4	1	2									
Enteric fever.....	4	10	1	6			3	3	3	5	4	6	2	10	8			
Influenza (grippe).....							1	1	1									
Septicæmia.....							1	1	2									
Pyæmia.....	1																	
Diarrhea.....	3	2	1	3			14	6	28	1	1	22	6	2	3	5	1	1
Dysentery.....	1	10	1	2			9	3	7	5	2	10	6	2	2	2	2	2
Enterocolitis.....							36	35	20	13								
Cholera infantum.....							42	55	80	40								
Cholera morbus.....	2																	
Carbuncle.....							1											
Cutaneous fever.....																		
Varicella.....																		
Total miasmatic.....	11	32	3	21			208	195	207	147	67	61	48	62	40	19		
Order 2.—Ethereic.																		
Syphilis, congenital.....																		
tertiary.....				2			3	4	5	12								
Total ethereic.....				2			3	4	5	13								

Inflammation of brain.....	10	.17	.03	.05	4	2	3	2	1	6	4	4	6	4	3	6	1	1	.....
Softening of brain.....	13	.22	.05	.05	7	2	3	3	1	9	4	10	3	4	3	6	1	1	.....
Congestion of brain.....	24	.40	.07	.11	9	5	8	2	11	10	17	17	10	17	7	1	3	1	.....
Convulsions.....	96	1.68	.14	.78	14	13	13	4	25	27	69	58	38	6	1	6	1	1	.....
Trismus nascentium.....	18	.39	.05	.10	7	2	3	6	9	10	8	1	1	1	1	1	1	1	.....
Diseases of brain.....	1	.73	.17	.13	11	18	7	4	32	11	21	1	1	22	1	1	1	2	.....
Hemiplegia.....	28	.47	.09	.13	5	12	5	7	6	17	11	10	18	1	1	1	1	2	.....
Paraplegia.....	3	.05	.04	.04	2	2	2	3	3	3	3	3	2	3	3	3	3	3	.....
Cerebral embolism.....	7	.11	.02	.01	3	1	1	1	3	4	1	4	1	4	1	4	1	1	.....
Locomotor ataxia.....	5	.08	.02	.04	2	2	2	1	3	4	3	2	4	3	2	5	1	1	.....
Myelitis.....	7	.11	.02	.04	2	2	2	2	3	4	3	2	4	3	2	5	1	1	.....
Cerebral thrombus.....	9	.15	.03	.05	3	2	2	2	2	5	4	5	4	1	1	1	1	1	.....
Edema of brain.....	11	.18	.04	.04	6	2	1	2	3	5	3	4	1	1	1	1	1	1	.....
Tumor of brain.....	4	.06	.02	.01	2	1	1	1	2	3	1	3	1	1	1	1	1	1	.....
Anæmia of brain.....	2	.03	.01	.01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Insolation (sunstroke).....	12	.20	.05	.04	6	3	1	2	9	9	3	7	5	4	1	4	1	1	.....
Neurasthenia.....	9	.15	.05	.04	5	4	1	2	9	9	3	7	5	4	1	4	1	1	.....
Hydrophobia.....	1	.01	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tetanus (idiopathic).....	3	.05	.01	.02	1	1	2	2	1	1	2	2	1	1	1	1	1	1	.....
Sclerosis of spinal cord.....	1	.01	.01	.01	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nelavan.....	1	.01	.01	.01	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total nervous diseases.....	697	11:80	2.32	2.98	264	172	138	123	436	261	402	295	19	16	4	23	14	15	13

Order 2.—*Circulatory organs.*

Valvular diseases of the heart.....	293	5.00	.86	1.47	92	71	72	58	163	130	164	129	4	4	4	8	2	4	9	4
Hydropericardium.....	6	.10	.01	.05	2	2	1	1	3	2	4	3	3	2	1	1	1	1	1	.....
Pericarditis.....	5	.08	.02	.01	2	2	1	1	4	1	3	2	2	1	1	1	1	1	1	.....
Endocarditis.....	11	.18	.03	.05	1	6	1	4	7	4	1	3	10	2	1	2	1	1	1	.....
Fatty degeneration of heart.....	19	.32	.06	.08	4	8	3	4	12	7	7	12	1	1	1	1	1	1	1	.....
Dilatation of heart.....	10	.17	.04	.02	6	2	2	2	8	2	6	4	1	2	1	2	1	1	1	.....
Hypertrophy of heart.....	9	.15	.04	.02	3	4	1	1	7	2	4	5	1	1	1	1	1	1	1	.....
Cardiac thrombosis.....	7	.10	.02	.02	2	2	2	2	4	2	2	4	1	1	1	1	1	1	1	.....
Microcarditis.....	2	.12	.04	.01	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Cardiac asthma.....	2	.03	.01	.01	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	.....
Paralysis of heart.....	6	.20	.03	.03	4	4	2	2	1	6	2	4	2	1	1	1	1	1	1	.....
Angina pectoris.....	16	.27	.07	.08	9	3	2	1	12	3	11	8	1	1	1	1	1	1	1	.....
Cardiac disease, undefined.....	14	.23	.04	.08	4	3	2	5	7	7	9	8	1	1	1	2	1	1	1	.....
Atrophy of the heart.....	3	.05	.01	.01	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	.....
Carditis.....	2	.03	.01	.01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Cardiorrhœmia.....	1	.01	.01	.01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Aneurism of the aorta.....	12	.20	.04	.05	6	2	4	1	8	1	10	2	1	1	1	1	1	1	1	.....
Aneurism.....	2	.03	.01	.01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Arterio-sclerosis.....	2	.03	.01	.01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	.....
Total diseases of circulatory organs.....	424	7.18	1.35	1.93	141	113	88	82	254	170	229	195	8	8	5	12	5	9	10	8

Order 3.—*Respiratory organs.*

Pneumonia.....	500	8.50	1.21	3.09	134	94	121	151	228	272	255	245	5	3	4	5	3	2	1	3
Bronchitis.....	117	2.00	.33	.97	33	29	41	44	62	85	74	73	3	1	1	1	2	1	1	6
Congestion of the lungs.....	110	1.87	.28	.64	27	27	36	20	54	56	63	47	3	2	5	1	1	1	1	1

TABLE I.—*Showing total number of deaths occurring in the District of Columbia, etc.*—Continued.

Cause of death.	1895.												1896.															
	September.				October.				November.				December.				Total second quarter.				January.							
	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.				
CLASS II.—CONSTITUTIONAL DISEASES.																												
Order 1.— <i>Diathetic.</i>																												
Gout.....																												
Rheumatic gout.....																												
Total diathetic.....	3	5	2	1	10	27	7	12	5	8	3	6	2	8	5	4	3	2	11	19	5	11	5	9	2	7		
Order 2.— <i>Tubercular.</i>																												
Phthisis pulmonalis.....	17	7	17	6	35	30	47	40	16	19	10	12	14	14	7	23	12	7	13	9	42	40	30	44	16	13	9	18
Tuberculosis.....	1	4	1	4	5	9	8	1	1	2	1	2	1	2	5	6	1	4	2	2	4	5	9	9	2	2	3	4
Scrofula.....																												
Marasmus.....	3	5	1	2	12	10	10	5	9	3	5	3	4	3	1	1	2	2	2	15	8	8	4	3	2	1	4	
Rickets.....																												
Tubercular meningitis.....					1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pericarditis.....																												
Hydrocephalus.....					1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tabes mesenterica.....																												
Morbus coxae.....					4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total tubercular.....	21	16	24	11	57	48	72	56	28	25	19	16	20	17	13	30	15	15	18	13	63	57	50	59	22	18	15	27
Total constitutional.....	24	21	26	12	67	75	79	68	33	33	22	22	22	25	13	35	19	18	20	13	74	76	55	70	27	27	17	34
CLASS III.—LOCAL DISEASES.																												
Order 1.— <i>Nervous system.</i>																												
Intercostal neuralgia.....					7	7	2	1	8	2	1	2	4															
Meningitis, cerebral.....	2	3	1		1	2	2	2	1	1	1	1	1															
Cerebro-spinal.....					1	2	2	1	1	1	1	1	1	2	1	1	1	1	1	12	3	2	2	4	2	1	2	
Spinal.....																												
Apoplexy.....	2	4		3	10	13	8	5	14	2	3	1	7	5	2	8	3	2	6	29	10	5	9	6	5	3	4	
Epilepsy.....					2	2	1	1	2	1	3	4	1	1	1	2	1	1	1	8	2	4	2	1	2	1	2	
Insanity (organic brain disease).....	1				6	1			3	8										5	1	1	1	1	2	1	1	

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1896.																							
	February.				March.				Total third quarter.				April.				May.				June.			
	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.
CLASS II.—CONSTITUTIONAL DISEASES.																								
Order 1.— <i>Diathectic.</i>																								
Gout.....																								
Rheumatic gout.....																								
Total diathetic.....	3	13	2	4	6	9	2	4	14	31	6	15	4	10	1	3	5	12	1				1	1
Order 2.— <i>Tubercular.</i>																								
Phthisis pulmonalis.....	23	8	23	15	21	17	15	15	60	38	47	48	20	20	17	24	11	16	14	17	10	13	16	26
Tuberculosis.....			2	1		1			2	3	5	7			1						1	1	1	1
Scrofula.....								1																
Marasmus.....	2	1	2		3	2	1	1	8	5	4	5	3	1	2	2	3	3	2	1	2	2	7	4
Rickets.....																								
Tubercular meningitis.....	1				1	1	1	1	2	2	2	1			2	1			1		1	1	2	1
Peritonitis.....																								
Hydrocephalus.....								1	1						1	1				3			1	
Tabes mesenterica.....	1	1					1	2	1	2													1	3
Morbus coxae.....																								
Total tubercular.....	27	10	27	19	25	22	18	22	74	50	60	68	23	23	23	26	15	19	17	23	15	19	28	32
Total constitutional.....	30	23	29	23	31	31	20	26	88	81	66	83	27	33	24	29	20	31	18	23	19	27	31	37
CLASS III.—LOCAL DISEASES.																								
Order 1.— <i>Nervous system.</i>																								
Intercostal neuralgia.....																								
Meningitis, cerebral.....	1	1	1	4	2			1	8	3		4	2	1	1		1	3		1	2	4	1	2
cerebro-spinal.....																								
spinal.....																								
Apoplexy.....	10	5	3	6	11	5	3	5	27	15	9	15	8	2	4	9	7	3	5	5	4	3	2	22
Epilepsy.....																								
Insanity (organic brain disease).....	1	1	2		3	2	1		6	3	4		2	2		1	3	1			8	1		15

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEASED.												SOCIAL RELATIONS.					
	70 to 80 years.			80 to 90 years.			90 to 100 years.			Unknown age.			Married.			Single.		
	W.	F.	C.	W.	F.	C.	W.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
CLASS II.—CONSTITUTIONAL DISEASES.																		
Order 1.— <i>Diathetic.</i>																		
Gout.....																		
Rheumatic gout.....																		
Total diathetic.....	8	15	1	3	1			1			1			32	47	13	20	9
Order 2.— <i>Tubercular.</i>																		
Phthisis pulmonalis.....																		
Tuberculosis.....	10	5	2	5	2									65	53	61	58	97
Scrofula.....														4	3	8	9	16
Marasmus.....																		2
Rickets.....																	1	20
Tubercular meningitis enteritis.....																	2	4
peritonitis.....																	6	3
Hydrocephalus.....																	2	2
Typhus mesenterica.....																	1	5
Morbus coxæ.....	1													1	2	5	3	2
Total tubercular.....	11	5	2	5	3			1						70	61	69	72	147
Total constitutional.....	19	20	3	8	1	3		2			1			102	108	82	92	159
CLASS III.—LOCAL DISEASES.																		
Order 1.— <i>Nervous system.</i>																		
Intercostal neuralgia.....																		
Meningitis, cerebral.....	7	1	1											1				
cerebro-spinal.....																		
spinal.....																		
Apoplexy.....	18	9	2	8	2	5	2	2						58	13	17	17	13
Epilepsy.....	1													1				8
Lunacy (organic brain disease).....	6	3	3		1	2								16	5	3	1	8

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or widower.						District of Columbia.						Other parts of United States.					
	W.			C.			W.			C.			W.			C.		
	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.
CLASS II.—CONSTITUTIONAL DISEASES.																		
Order 1.— <i>Diathetic.</i>																		
Gout.....																		
Rheumatic gout.....													1					
Total diathetic.....	4	38	1	16			11	27	6	6	28	57	17	40	9	23		
Order 2.— <i>Tubercular.</i>																		
Phthisis pulmonalis.....	28	28	13	31			64	63	68	84	77	81	103	115	37	13		
Tuberculosis.....	1	1		1			8	8	12	12	1	5	13	14	1	1		
Scrophulous.....										2								
Marsupium.....							43	28	33	29		1		1				
Rickets.....										4	2							
Tubercular meningitis.....							6	5	6			1		3				
enteritis.....																		
peritonitis.....							2	1	2	3		2	2	4				
Hydrocephalus.....							2											
Tabs mesenterica.....	1						5	4	1		2	1	1	2				
Morbus coxæ.....							1		1	1								
Total tubercular.....	30	30	13	32			129	111	131	125	80	91	119	139	38	14		
Total constitutional.....	34	68	14	48			140	138	137	131	103	148	136	179	47	37		
CLASS III.—LOCAL DISEASES.																		
Order 1.— <i>Nervous system.</i>																		
Intercostal neuralgia.....																		
Meningitis, cerebral.....	1						28	10	3	10	1	2	3		2			
cerebro-spinal.....							4	5	5	1	2		1					
spinal.....																		
Apoplexy.....	17	29	5	22			11	7	3	3	47	30	27	37	30	11		
Epilepsy.....							2	3	4	2	8	1	3	3	4	1		
Insanity (organic brain disease).....	8	7	1				1	2			14	10	5		17	4		

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

Cause of death.	1896.																																									
	February.						March.						Total third quarter.						April.						May.						June.						Total fourth quarter.					
	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.	W.	M.	F.	C.										
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.								
CLASS III.—LOCAL DISEASES.																																										
Order 3.— <i>Respiratory organs.</i>																																										
Edema of the lungs.....																																										
Pleurisy.....	2	2			1	1			4	5	3	1																														
Abscess of the lungs.....	2	1			1			2	1	4	3	3	1	1	2	1																										
Asthma.....																																										
Pulmonary embolism.....																																										
Gangrene of the lungs.....																																										
Laryngitis.....	2								2																																	
Spasm of the glottis.....									1	1	1	1	1																													
Abscess of the larynx.....																																										
Pulmonary hemorrhage.....																																										
Emphysema of lungs.....																																										
Bronchial catarrh.....																																										
Hydrothorax.....																																										
Total diseases of the respiratory organs.....	37	27	31	33	25	17	31	30	95	79	96	19	13	29	28	10	8	14	14	9	2	7	14	38	23	50	56															
Order 4.— <i>Digestive organs.</i>																																										
Dentition.....																																										
Gastritis.....	1	1	2																																							
Enteritis.....	3				1				2	3																																
Gastro-enteritis.....									4																																	
Gastro-catarrh.....					1				1	1	1	3	1	1	2	1	1	1	1	2	6	3	5	9	8	6	5															
Gastro-intestinal catarrh.....																																										
Gastro-ulcer.....	2								4																																	
Gastro-hæmorrhage.....									1	2																																
Indigestion.....																																										
Colitis.....									1																																	
Appendicitis.....									1																																	
Peritonitis.....	2				1				3																																	
Hepatitis.....									1																																	
Enteritis.....									1																																	
Enterocolitis.....																																										
Enteric obstruction.....	1	2	1																																							
Catarrh.....	1								1	4	2	1	1	1	1	1																										
Total diseases of the respiratory organs.....	37	27	31	33	25	17	31	30	95	79	96	19	13	29	28	10	8	14	14	9	2	7	14	38	23	50	56															
Total diseases of the digestive organs.....																																										

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEASED.																						
	Under 1 year.				1 to 2 years.				2 to 3 years.				3 to 4 years.				4 to 5 years.				Total under 5 years.		Per cent of each cause to total mortality under 5 years of age.
	W.		C.		W.		C.		W.		C.		W.		C.		W.		C.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
CLASS III.—LOCAL DISEASES.																							
Order 3.— <i>Respiratory organs.</i>																							
Edema of the lungs.....				1				1															
Pleurisy.....		1	1																				
Abscess of the lungs.....																							
Asthma.....																							
Pulmonary tuberculosis.....																							
Gonorrhea of the lungs.....																							
Laryngitis.....																							
Spasm of the glottis.....																							
Abscess of the larynx.....																							
Pulmonary hemorrhage.....																							
Empysema of lungs.....	1																						
Bronchial catarrh.....																							
Hydrothorax.....																							
Total diseases of the respiratory organs.....	50	21	79	87	19	10	31	37	8	3	16	14	2	6	9	2	2	4	81	52	151	416	19.86
Order 4.— <i>Digestive organs.</i>																							
Dentition.....		4	5	12	9	2	1	4	5		1	1								6	7	17	44
Gastritis.....			1	1	1	1	2													1	3	1	6
Enteritis.....			4	3	6	9	1	1	1	1										1	3	1	6
Gastro-enteritis.....			9	12	7	9	1	2	2	3										6	4	8	28
Gastro catarrh.....																				10	14	9	46
Gastro-intestinal catarrh.....																							
Gastric ulcer.....	2	4	1		1	1	1	1			1									3	6	1	11
Gastric ulcer..... hemorrhage.....																							
Indigestion.....	2																						
Colitis.....	4	2	1	3	1															3		1	7
Appendicitis.....																				9	2	1	13
Peritonitis.....																							
Hepatitis.....																							
Intussusception.....																							
Enteric ulcer.....																							
Enteric ulcer..... obstruction.....																							
Enteric ulcer..... catarrh.....	1																			1	1	4	5

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.												SOCIAL RELATIONS.					
	70 to 80 years.						80 to 90 years.						90 to 100 years.					
	W.			C.			W.			C.			W.			C.		
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.	
CLASS III.—LOCAL DISEASES.																		
Order 3.—Respiratory organs.																		
Edema of the lungs.....	3																	
Asthenia.....	1																	
Asthenia of the lungs.....																		
Asthma.....																		
Pulmonary embolism.....																		
Gangrene of the lungs.....	1																	
Laryngitis.....																		
Spasm of the glottis.....																		
Abscess of the larynx.....																		
Pulmonary hemorrhage.....	1																	
Emphysema of lungs.....																		
Bronchial catarrh.....																		
Hydrothorax.....																		
Total diseases of the respiratory organs....	18	16	4	3	9	14	3	1	1	1	2	1				79	51	41
Order 4.—Digestive organs.																		
Dentition.....																		
Gastritis.....	3	1		1	2											6	7	17
Enteritis.....	1	1	1	1	1											1	6	1
Gastro-enteritis.....	3															7	6	8
Gastro catarrh.....																13	16	10
Gastro-intestinal catarrh.....	1			1												3	7	1
Gastric ulcer.....				1												1	2	1
Gastric hemorrhage.....																		
Indigestion.....																3	1	2
Colitis.....																3	3	1
Appendicitis.....																6	3	1
Peritonitis.....	1	1														5	4	1
Hepatitis.....				1												1	1	3
Intussusception.....																		
Enteric ulcer.....				1												1	1	1
Enteric obstruction.....	2															1	1	2
Catarrh.....				1												2	5	1
Total diseases of the digestive organs....																75	163	182

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or wid- ower.						Unknown.						District of Columbia.					
	W.			C.			W.			C.			W.			C.		
	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.
CLASS III.—LOCAL DISEASES.																		
Order 3.—Respiratory organs.																		
Edema of the lungs.....																		
Pleurisy.....	3			1			2	2		1			2	1				
Abscess of the lungs.....	2	2		1			2	2		3			7	3		4	2	
Asthma.....	1	1		1			1						1			1	1	
Pulmonary embolism.....		2	1							2				3		1	3	
Gangrene of the lungs.....	1	1		1						2						2	1	
Laryngitis.....							1			1			1					
Spasm of the glottis.....							1	3					1	3		1		
Abscess of the larynx.....							5	3		2	1		1					
Pulmonary hemorrhage.....										1			1					
Emphysema of lungs.....	1						1			1				1		1	2	
Bronchial catarrh.....							1											
Hydrothorax.....	1															1		
Total diseases of the respiratory organs.....	29	56	15	23			111	76	149	181			79	45	70	50	41	61
Order 4.—Digestive organs.																		
Dentition.....																		
Gastritis.....	2	4					6	7	17	14			3	9		5	3	
Enteritis.....							3	4	1	1			3	3		1	2	
Gastro-enteritis.....	3	1	2				6	5	8	11			3	3	1	2	1	
Gastro catarrh.....							14	16	9	13			3	1		2	2	
Gastro-intestinal catarrh.....	1		1				3	9	1	1			1			2	2	
Gastric ulcer.....	3			1									1	5		1	1	
hemorrhage.....																		
Indigestion.....							3		2	3			1			1	2	
Colitis.....	2						6	3	1				9	1		1	2	
Appendicitis.....	1						3		1				7	1		4	2	
Peritonitis.....								3	3	2			1			1	1	
Hepatitis.....	1	1		1			1	1					1					
Intussusception.....							1						1			1		
Enteric ulcer.....	2	3		1			1	3	1				3	4		2	1	
obstruction.....							3		5				4			1		
catarrh.....	1						1	1	2	1						1	1	

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent of each cause to total mortality.	DEATH RATE.		RECAPITULATION.										1895.								
			Deaths per 1,000 inhabitants.		Total by color and sex.					Total by color.		Total by sex.		July.			August.						
			W.	C.	C.					W.	C.	M.	F.	M.	F.	M.	F.	M.	F.	C.			
					W.	M.	F.	M.	F.												W.	C.	M.
CLASS III.—LOCAL DISEASES.																							
Order 7.—Oscous and locomotory.																							
Gangrene of foot	2	.03	.01		2																		
Ulcer of leg	2	.03	.02				1																
Necrosis of ribs	1	.02	.01				1																
Psoas abscess	2	.02	.01				1																
Ostitis of shin	2	.02	.02				1																
Ositis of shin	1	.02	.01				1																
Pelvic abscess	8	.13	.03				6																
Total diseases, osseous and locomotory	21	.35	.07	.09	5	8	4	4	13	8	9	12											
Order 8.—Integumentary.																							
Mastoid abscess	2	.03	.01				1																
Otitis	3	.05	.01				2																
Cellulitis	1	.02	.01				1																
Nasal catarrh	2	.03	.01				1																
Maxillary abscess	2	.03	.03				2																
Sarcoma and tumors	6	.11	.03				3																
Total integumentary	16	.27	.06	.08	5	4	2	5	9	7	7	9											
Total local diseases	2, 691	45.58	8.25	13.02	879	668	568	576	1,547	1,144	1,447	1,244	68	46	43	42	52	53	40	47			
CLASS IV.—DEVELOPMENTAL.																							
Order 1.—Children.																							
Congenital malformation	2	.04	.01				2																
Spina bifida	2	.03	.01				1																
Premature birth	127	2.15	.36	.68	45	24	30	28	69	58	75	52	7	1	4	3	2	2	3	2			
Congenital debility	68	1.15	.15	.45	14	14	18	22	28	40	32	36	1	2	6	4	3	3	3				
Umbilical hernia	2	.04	.01				2																
Atelectasis	9	.15	.02	.06	4	2	3	4	5	6	3	1	1	1	1	1	1	1	1				
Jaundice	5	.09	.02	.01	1	3	1	4	1	4	1	4	3	1	1	1	1	1	1				

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

[illegible]

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent of each cause to total mortality.	DEATH RATE.		RECAPITULATION.												1895.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			Deaths per 1,000 inhabitants.		Total by color and sex.						Total by sex.						July.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			W.	C.	Total by color.			Total by sex.			Total by color.			Total by sex.			W.	F.	M.	F.	M.	F.	C.	W.	F.	M.	F.	C.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CLASS V.—VIOLENCE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Order 1.—Accidents and negligence.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Drowning	24	.41	.05	.15	9	1	14					10	14	23	1	1	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

Order 3.—*Homicides.*

Order 3.— <i>Homicides.</i>									
Gun (or pistol) shot.....	4	.07					4		1
Stabbed.....	7	.05	.01	.04		1	3	1	
Fracture of skull.....	1	.05			1	1	2		
Assault.....	3	.05	.01		1	2	3		
Total homicides.....	14	.24	.02	.12	1	2	10	1	3
Order 4.— <i>Suicides.</i>									
Drowning.....	6	.10	.03		4	2			
Gun (or pistol) shot.....	14	.23	.06	.01	13	1	13	1	3
Kerbolic poison.....	7	.11	.03		6	1	7		
Corrosive poison.....	3	.05	.01	.03		1	1	2	1
Inhalation of illuminating gas.....	2	.04	.01		2	2	2		
Incised wounds.....	4	.07	.02		3	1	4		1
Strangulation.....	2	.04	.01		2	2	2		
Total suicides.....	38	.64	.17	.04	30	5	1	2	35
Total violence.....	234	3.96	.85	.83	125	36	56	17	161
Total deaths from all causes.....	5,904	100.00	17.61	29.54	1,810	1,402	1,290	1,312	3,302
RECAPITULATION.									
Zymotic:									
Miasmatic diseases.....	1,054	17.85	3.15	5.28	315	275	255	209	590
Enthetic diseases.....	27	.46	.04	.23	3	4	5	15	7
Dietic diseases.....	163	2.76	.49	.79	62	31	32	38	93
Parasitic diseases.....	3	.05	.02		1	2		3	
Total zymotic diseases.....	1,247	21.12	3.70	6.30	381	312	292	262	693
Constitutional:									
Diathetic diseases.....	224	3.80	.83	.78	48	107	23	46	155
Tubercular diseases.....	977	16.54	2.47	5.85	247	216	250	463	514
Total constitutional diseases.....	1,201	20.34	3.30	6.63	295	323	273	310	618
Local:									
Nervous system.....	697	11.80	2.32	2.98	264	172	138	123	436
Circulatory organs.....	424	7.18	1.35	1.93	141	113	88	62	254
Respiratory organs.....	285	4.82	0.90	1.20	102	82	62	43	167
Digestive organs.....	297	5.03	1.26	1.71	125	112	72	78	237
Urinary organs.....	280	4.68	.86	.94	108	59	45	38	167
Generative organs.....	33	.55	.10	.17	18		15	18	33
Ossens and locomotory.....	21	.35	.07	.08	5	4	4	13	6
Integumentary.....	16	.27	.06	.08	5	4	5	9	7
Total local diseases.....	2,691	45.58	8.25	13.02	879	668	568	576	1,547
Total deaths from all causes.....	5,904	100.00	17.61	29.54	1,810	1,402	1,290	1,312	3,302

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.

Cause of death.	Total of deaths from each cause.	Per cent of each cause to total mortality.	DEATH RATE.		RECAPITULATION.								1895.							
			Deaths per 1,000 inhabitants.		Total by color and sex.				Total by sex.		July.				August.					
			W.		C.	M.		F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.		
			W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.	W.	C.	M.	F.		
CLASS V.—VIOLENCE.																				
Order 1.—Accidents and negligence.																				
Drowning	24	.41	.05	.15	.05	9	1	14	.....	10	14	23	1	1	.....	3	.....	4	.....
Falls	38	.65	.15	.08	24	7	6	1	31	7	30	8	1	3	1
Steam railway accidents.....	17	.29	.07	.04	4	3	3	.....	14	3	17	.....	1	.....	.....	.....	.....	.....	.....
Street railway accidents.....	6	.10	.03	.....	4	2	3	.....	6	.....	4	2	.....	.....	.....	.....	.....	.....	.....
Burns and scalds	15	.26	.03	.09	4	3	2	6	.....	6	8	6	9	.....	1	.....	.....	.....	.....
Inhalation of illuminating gas.....	8	.14	.03	.02	5	1	.....	.....	2	6	2	5	3	.....	1	.....	.....	.....	.....
Gun (or pistol) shot.....	4	.07	.01	.02	1	1	1	1	.....	2	2	4	2	.....	1	.....	.....	.....	.....
Run over by vehicle	4	.07	.01	.02	1	1	1	1	.....	2	2	4	2	.....	1	.....	.....	.....	.....
Traumatic septicaemia.....	3	.05	.01	.02	1	.....	2	.....	.....	1	2	3	.....	.....	1	.....	.....	.....	.....
peritonitis	1	.01	.01	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
tetanus	7	.12	.01	.06	2	.....	5	.....	.....	2	5	7	.....	.....	.....	.....	.....	.....	.....
Exposure and neglect	5	.08	.01	.04	1	1	3	.....	.....	2	3	4	.....	.....	.....	.....	.....	.....	.....
Fracture of skull.....	4	.07	.02	.....	4	.....	.....	.....	.....	4	.....	4	.....	.....	.....	.....	.....	.....	.....
Laparotomy	1	.02	.01	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Surgical operation	8	.14	.03	.04	1	4	.....	3	.....	5	3	1	7	.....	1	.....	.....	.....	.....
Narcotic poison.....	4	.07	.02	.....	3	1	.....	.....	.....	4	.....	3	.....	.....	.....	.....	.....	.....	.....
Corrosive poison.....	1	.01	.01	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Fracture of sternum.....	1	.01	.01	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Concussion of brain.....	2	.04	.01	.01	.....	.....	1	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	.....
Strangulation and asphyxia.....	11	.19	.03	.01	8	2	.....	.....	.....	10	1	9	2	.....	1	.....	.....	.....	.....
Capture of blood vessel.....	4	.07	.01	.01	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Fracture of femur.....	5	.08	.03	.....	1	4	.....	.....	.....	5	.....	4	.....	.....	1	.....	.....	.....	.....
Crushed in elevator	1	.01	.01	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Crushed and burned at Louisiana avenue fire.....	5	.08	.03	.....	.....	5	.....	.....	.....	5	.....	5	.....	.....	.....	.....	.....	.....	.....
Traumatic pericarditis	1	.01	.....	.01	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Total accidents and negligence	178	3.02	.65	.63	93	29	42	14	122	56	135	43	5	4	5	10	4	9	1	
Order 2.—Judicial execution.																				
Hanging.....	4	.06	.01	.04	1	.....	3	.....	.....	1	3	4	.....	.....	1	.....	.....	.....	.....
Total judicial execution	4	.06	.01	.04	1	.....	3	.....	.....	1	3	4	.....	.....	1	.....	.....	.....	.....

TABLE I.—*Showing total number of deaths occurring in the District of Columbia, etc., etc.—Continued.*

[illegible]

Order 3.—Homicides.

Gun (or pistol) shot 1
 Stabbed 1
 Struck with knife 1
 Assault 1

Total homicides

Order 4.—Suicides.

Drowning
 Gun (or pistol) shot 1
 Narcotic poison 3
 Corrosive poison 3
 Inhalation of illuminating gas 1
 Incised wounds 2
 Strangulation 1

Total suicides

Total violence

Total deaths from all causes.....

RECAPITULATION.

Zymotic:

Miasmatic diseases
 Enteric diseases
 Diabetic diseases
 Parasitic diseases

Total zymotic diseases.....

Constitutional:

Diabetic diseases
 Tubercular diseases

Total constitutional diseases.....

Local:

Nervous system
 Circulatory organs
 Respiratory organs
 Digestive organs
 Urinary organs
 Generative organs
 Osseous and locomotory
 Integumentary

Total local diseases.....

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

[illegible]

Order 3.—Homicides.

[illegible]

Order 4.—*Suicides.*

[illegible][illegible]

RECAPITULATION.

[illegible][illegible][illegible]

Local:

Nervous system.....	47	26	59	39	2	10	2	2	4	2	3	3	2	5	2			1	2		2	57	43	64	47	211	10.07	
Circulatory organs.....		9	2																							216	18.36	
Respiratory organs.....	50	31	79	87	19	10	31	37	8	3	16	14	2	6	9	2	2				4	81	52	132	151	416	19.86	
Digestive organs.....	27	28	36	34	13	8	10	2	2	3	3	1									1	42	38	48	45	173	8.30	
Urinary organs.....		3	3	2	1						1	1	1	1								1	6		5	4	15	71
Generative organs.....																												
Ossesons and locomotory Integumentary	1	1	1			1	1	1	1	1		1										1	1				.04	
																						1	1	2	3	7	.33	

130	87	178	165	35	29	42	52	12	9	23	19	8	8	10	4	4	6	189	137	251	252	829	39.58
Total local diseases.....																								

Order 3.—Homicides.

[illegible]

Order 4.—*Suicides.*

[illegible]

RECAPITULATION.

RECAPITULATION.

Zymotic:

[illegible]

Constitutional:

Constitutional:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Local:

[illegible]

Order 3.—*Homicides.*

Gun (or pistol) shot.....		
Stabbed.....	1	
Fracture of skull.....	1	
Assault.....	1	
Total.....	6	9

Total homicides.

Order 4.—*Suicides.*

[illegible]

Total suicides

[illegible]

RECAPITULATION.

	RECAPITULATION.										
Zymotic:											
Miasmatic diseases.....	15	10	3	5	4	2	1	1	1	245	170
Etiætic diseases.....										211	224
Ethætic diseases.....										3	5
Dietic diseases.....										4	13
Parasitic diseases.....	1									52	36
										29	27
										2	36
										8	2
										2	5
										52	2
										29	27
										3	4
										59	32
										28	18
										5	13
										4	5
										1	3
										2	52
										2	29
										5	27
										13	36
										211	224
										245	170
										18	28
										59	32
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										28	18
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										4	5
										1	3
										2	52
										2	29
										5	27

Total zymotic diseases.

Constitutional:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Local:

Nervous system	48	30	12	11	4	5	4	3	1	116	37	38	91	107	72	89	63
Circulatory organs	20	24	11	4	5	4	3	3	3	59	47	25	21	20	27	14	14
Respiratory organs	18	16	4	3	9	14	3	1	1	78	51	26	123	53	163	182	182
Digestive organs	11	8	1	5	3	7	4	1	1	49	31	11	11	14	39	53	53
Urinary organs	26	8	5	2	10	2	1	1	1	54	26	25	11	31	17	15	15
Generative organs	3	1	2	3	3	1	1	1	1	7	7	7	7	7	7	7	7
Osseous and locomotory	3	1	2	3	3	1	1	1	1	9	2	2	2	2	2	2	2
Integumentary	1	2	1	1	1	1	1	1	1	1	2	1	4	1	3	3	3

Total local diseases.

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	Total deaths from each cause.	Per cent of each cause to total mortality.	DEATH RATE.		RECAPITULATION.												1895.											
			Deaths per 1,000 inhabitants.		Total by color and sex.				Total by sex.				July.				August.											
			W.	C.	W.		C.		M.	F.	C.	M.	F.	M.	F.	W.	C.	W.	C.									
					M.	F.	M.	F.												W.	C.	W.	C.	W.	C.	W.	C.	
RECAPITULATION.																												
Developmental:																												
Infants.....	295	4.50	.72	1.48	82	53	62	68	135	120	144	121	11	6	11	9	6	6	8	6	6	6						
Women.....	55	.92	.17	.29	30	25	30	25	20	25	55	55	2	1	7	4	2	5	6	3	6	6						
Old age.....	203	3.48	.60	1.04	45	38	39	53	113	92	84	121	1	7	4	2	5	6	3	6	6							
Nutrition.....	6	.10	.02	.02	3	2		1	5	1	3	3																
Total developmental.....	531	9	1.51	2.82	130	153	101	147	283	248	231	300	12	15	15	11	11	16	11	13	13	13						
Violence:																												
Accidents and negligence.....	178	3.02	.65	.63	93	29	42	14	122	56	135	43	5	4	5		10	4	9	1	1							
Judicial execution.....	4	.06	.01	.04	1	3		3	1	3	4			1														
Homicides.....	14	.24	.02	.12	1	2	10	1	3	11	11	3			1				1									
Suicides.....	38	.64	.17	.04	30	5	1	2	35	3	31	7	4	1			2	1										
Total violence.....	224	3.96	.85	.83	125	36	56	17	161	73	181	53	10	5	7		12	5	10	1	1							
SUMMARY.																												
I. Zymotic.....	1,247	21.12	3.70	6.30	381	312	292	262	693	554	673	574	49	60	62	42	51	38	42	32	32							
II. Constitutional.....	1,201	20.34	3.30	6.60	295	323	273	310	618	563	568	633	18	20	23	23	25	34	30	33	33							
III. Local.....	2,691	45.58	8.25	13.02	879	668	568	576	1,547	1,144	1,447	1,244	68	46	43	42	52	53	40	47	47							
IV. Developmental.....	531	9	1.51	2.82	130	153	101	147	283	248	231	300	12	15	15	11	11	16	11	13	13							
V. Violence.....	234	3.96	.85	.80	125	36	56	17	161	73	181	53	10	5	7		12	5	10	1	1							
Grand total from all causes, by sex and color.....	5,904	100	17.61	29.54	1,810	1,492	1,290	1,312	3,302	2,602	3,100	2,804	157	146	130	118	151	146	133	126	126							
Total from all causes, by color.....					3,302	2,602								303	268			297		259	259							
Percentages, by color, to total mortality.....					56	44											5.13	4.54	5.04	4.40	4.40							
Death rate per 1,000 inhabitants, by color.....																	1.62	3.05	1.58	2.94	2.94							
Grand aggregate.....	5,904	100																		556	556							
Death rate per 1,000 inhabitants, total population.....	21.43				17.61	29.54											571			2.01	2.01							

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	1895.												1896.														
	Total first quarter.				October.				November.				December.				Total second quarter.				January.						
	September.				October.				November.				December.				Total second quarter.				January.						
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.					
RECAPITULATION.																											
Developmental:																											
Infants.....	6	3	4	8	23	15	23	23	6	7	4	4	3	7	5	7	7	2	6	17	17	16	15	6	3	5	9
Women.....	1	1	5	7	6	1	1	1	1	1	1	1	2	2	1	1	5	4	5	12	4	7	7	2	2	2	
Oldage.....	1	2	2	5	7	15	9	13	5	9	2	6	5	3	3	2	4	1	6	12	16	6	15	4	6	6	
Nutrition.....	1				1										1							1		2		5	
Total developmental.....	8	6	6	18	31	37	32	42	11	17	9	10	9	8	10	11	9	12	3	17	29	37	22	38	10	13	11
Violence:																											
Accidents and negligence.....	11	2	4	1	26	10	18	2	8	4	4	3	5	2	5	1	6	1	2	19	7	11	4	3	5	2	3
Judicial execution.....					1		1																				
Homicides.....	2	1	1	1	8	2	3	1	2	1	1	1	2	1	1	1	2	1	1	6	1	2	1	3		2	
Suicides.....																											
Total violence.....	13	2	5	2	35	12	22	3	11	4	5	3	7	2	6	2	8	2	2	1	26	8	13	6	6	5	4
SUMMARY.																											
I. Zymotic.....	46	33	43	39	146	131	147	113	55	42	31	21	25	24	11	18	28	10	11	10	108	76	53	49	20	20	11
II. Constitutional.....	24	21	26	12	67	75	79	68	33	33	22	22	22	25	13	35	19	18	20	13	74	76	55	70	27	27	17
III. Local.....	52	37	29	37	172	136	112	126	89	62	46	37	78	59	43	39	92	63	50	41	259	184	141	117	85	69	57
IV. Developmental.....	8	6	6	18	31	37	32	42	11	17	9	10	9	8	10	11	9	12	3	17	29	37	22	38	10	13	11
V. Violence.....	13	2	5	2	35	12	22	3	11	4	5	3	7	2	6	2	8	2	2	1	26	8	13	6	6	5	4
Grand total from all causes, by sex and color.....	143	99	109	108	451	301	392	352	199	158	113	93	141	118	85	105	156	105	86	82	496	381	284	280	148	134	100
Total from all causes, by color.....																											
Percentages, by color, to total mortality.....																											
Death rate per 1,000 inhabitants, by color.....																											
Grand aggregate.....																											
Death rate per 1,000 inhabitants, total population.....																											

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.		February.				March.				Total third quarter.				April.				May.				June.				Total fourth quarter.			
		W.		C.		W.		C.		W.		C.		W.		C.		W.		C.		W.		C.		W.		C.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
RECAPITULATION.																													
Developmental:																													
Infants.....		7	4	1	4	8	4	4	6	21	11	10	19	3	3	3	5	7	5	5	3	11	2	5	3	21	10	13	11
Women.....		3	3	1	2	2	2	2	2	7	7	5	5	6	6	4	4	2	4	4	4	1	1	1	1	12	15	10	7
Old age.....		2	8	2	5	6	8	6	5	12	23	14	15	9	5	3	3	3	4	5	5	2	6	2	2	14	15	10	10
Nutrition.....		1								1	2							1								1			
Total developmental.....		10	15	3	10	14	14	10	13	34	42	24	39	12	14	6	10	11	14	10	12	13	9	7	6	36	37	23	28
Violence:																													
Accidents and negligence.....		11	2	1	1	8	1	3	2	22	8	6	6	8	1	2	1	9	2	1	...	9	1	4	1	26	4	7	2
Judicial execution.....		1																											
Homicides.....		3	1	1	1	1	1	1	1	7	1	1	2	5	2	2	1	2	1	1	1	2	1	1	1	9	1	3	1
Suicides.....		1																											
Total violence.....		14	2	3	1	9	2	3	2	29	9	10	6	13	1	4	1	11	3	2	...	11	3	5	1	35	7	11	2
SUMMARY.																													
I. Zymotic.....		23	19	8	12	22	15	20	23	65	54	39	47	10	13	14	19	12	11	11	13	40	27	28	21	62	51	53	53
II. Constitutional.....		20	23	29	23	31	31	20	26	88	81	66	83	27	33	24	29	20	31	18	23	19	27	31	37	66	91	73	89
III. Local.....		88	65	51	58	62	72	61	58	255	206	175	177	78	55	54	62	57	50	41	44	58	37	45	50	193	142	140	156
IV. Developmental.....		10	15	3	10	14	14	10	13	34	42	24	39	12	14	6	10	11	14	10	12	13	9	7	6	36	37	23	28
V. Violence.....		14	2	3	1	9	2	3	2	29	9	10	6	13	1	4	1	11	3	2	...	11	3	5	1	35	7	11	2
Grand total from all causes, by sex and color.		165	124	100	104	158	134	114	122	471	392	314	352	140	116	102	121	111	109	82	92	141	103	116	115	392	328	300	328
Total from all causes, by color.....		289	204			292		236		863		666		256		223		220		174		244		231		720		628	
Percentages, by color, to total mortality.....		4.90	3.46			4.96		4		14.63		11.30		4.34		3.79		3.73		2.95		4.13		3.91		12.20		10.65	
Death rate per 1,000 inhabitants, by color.....		1.54	2.32			1.56		2.68		4.60		7.57		1.37		2.53		1.18		1.98		1.30		2.62		3.84		7.25	
Grand aggregate.....		493						528		1,529		479						394						475		1,348			
Death rate per 1,000 inhabitants, total population.		1.79						1.91		5.54		1.74						1.43						1.72		4.89			

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.																	
	Under 1 year.			1 to 2 years.			2 to 3 years.			3 to 4 years.			4 to 5 years.			Total under 5 years.		
	W.	C.		W.	C.		W.	C.		W.	C.		W.	C.		W.	C.	
	M. F.	M. F.		M. F.	M. F.		M. F.	M. F.		M. F.	M. F.		M. F.	M. F.		M. F.	M. F.	
Developmental:																		
Infants.....	73	49	51	9	4	13	17									82	53	62
Women.....																68		
Old age.....																		
Nutrition.....																		
Total developmental.....	73	49	51	9	4	13	17									82	53	62
Violence:																		
Accidents and negligence.....																		
Judicial execution.....	5	3						1	3	1	1	1	1	2		8	4	6
Homicides.....																		
Suicides.....																		
Total violence.....	5	3						1	3	1	1	1	1	2		8	4	6
SUMMARY.																		
I. Zymotic.....	143	125	172	129	28	27	13	15	12	9	8	6	14	13	7	4	293	184
II. Constitutional.....	53	35	48	29	4	4	13	10	2	6	5	4	1	2	5	3	62	50
III. Local.....	130	87	178	165	35	29	42	52	12	9	23	19	8	8	10	4	189	137
IV. Developmental.....	73	49	49	51	9	4	13	17		1	3	1	1	1	1		82	53
V. Violence.....	5	3								1	3	1	1	1	2		8	4
Grand total from all causes, by sex and color.....	404	296	450	374	76	64	81	94	27	27	37	30	24	24	20	13	544	428
Total from all causes, by color.....	700	824		140		175			54	67			48	33		30	972	
Percentages, by color, to total mortality.....	11.85	13.94		2.37		2.98			.91	1.13			.81	.56		.51	16.46	
Death rate per 1,000 inhabitants, by color.....	3.75	9.36		.74		1.98			.29	.76			.25	.37		.17	5.18	
Grand aggregate.....	1,524			315					121				81			53	2,094	
Death rate per 1,000 inhabitants, total population.....	5.53			1.14					.44				.30			.19	7.60	

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.											
	5 to 10 years.			10 to 20 years.			20 to 30 years.			30 to 40 years.		
	W.	C.		W.	C.		W.	C.		W.	C.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
RECAPITULATION.												
Developmental:												
Infants.....												
Mental.....												
Old age.....												
Nutrition.....												
Total developmental.....												
Violence:												
Accidents and negligence.....												
Judicial execution.....												
Homicides.....												
Suicides.....												
Total violence.....												
SUMMARY.												
I. Zymotic.....	16	24	12	19	22	15	32	40	28	21	18	26
II. Constitutional.....	4	4	9	7	6	30	32	48	57	49	62	70
III. Local.....	11	13	7	11	17	13	27	28	31	42	33	31
IV. Developmental.....	3	2	2	1	18	4	12	3	22	3	13	3
V. Violence.....	34	43	30	38	63	71	86	119	150	134	129	131
Grand total from all causes, by sex and color.....	77	68	134	205	284	260	249	200	283	213	427	199
Total from all causes, by color.....	1.30	1.15	2.27	3.48	4.81	4.40	4.22	3.40	4.80	3.61	7.24	3.36
Percentages, by color, to total mortality.....	.41	.77	.71	2.32	1.51	2.96	1.33	2.27	1.50	2.42	2.28	2.26
Death rate per 1,000 inhabitants, by color.....												
Grand aggregate.....	145	339	544	449	496	626	529	1.94				
Death rate per 1,000 inhabitants, total population.....	.53	1.24	1.96	1.63	1.80	2.27						

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	AGE OF DECEDENT.												SOCIAL RELATIONS.					
	20 to 80 years.						80 to 90 years.						90 to 100 years.					
	W.			C.			W.			C.			W.			C.		
	M.	F.		M.	F.		M.	F.		M.	F.		M.	F.		M.	F.	
RECAPITULATION.																		
Developmental:																		
Infants.....																		
Women.....																		
Old age.....	21	21	11	15	16	32	14	12	4	10	7	20						
Nutrition.....	1			1														
Total developmental.....	21	22	11	15	16	33	14	12	5	10	7	20						
Violence:																		
Accidents and negligence.....	6	5	1		2	1				1								
Capital execution.....																		
Homicides.....																		
Suicides.....																		
Total violence.....	6	5	1		2	1				1								
SUMMARY.																		
I. Zymotic.....	16	11	3	5	4	4	2	1		1	1	1						
II. Constitutional.....	19	20	3	8	1	3		2										
III. Local.....	127	89	29	32	30	37	11	9	1	2	2	5						
IV. Developmental.....	21	22	11	15	16	33	14	12	5	10	7	20						
V. Violence.....	6	5	1		2	1												
Grand total from all causes, by sex and color.....	189	147	47	60	53	78	27	24	6	14	10	27						
Total from all causes, by color.....	336	107		131		51				20		37						
Percentages, by color, to total mortality.....	5.70	1.80		2.20		.86				.34		.63						
Death rate per 1,000 inhabitants, by color.....	1.79	1.21		.70		.58				.11		.42						
Grand aggregate.....	443					182				57								
Death rate per 1,000 inhabitants, total population.....	1.61					.66				.20								

TABLE I.—Showing total number of deaths occurring in the District of Columbia, etc.—Continued.

Cause of death.	SOCIAL RELATIONS.						NATIVITY.											
	Widow or wid- ower.						District of Columbia.						Other parts of United States.					
	W.			C.			W.			C.			W.			C.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
RECAPITULATION.																		
Developmental:																		
Infants.....							82	53	62	68			12			17		
Women.....							14						46			50		
Old age.....	25	56	23	43			1	5	1	3			26			18		
Nutrition.....	2	2		1									1			2		
Total developmental.....	27	58	23	45			83	72	63	79			27			68		
Violence:																		
Accidents and negligence.....	8	7	1	2			41	15	15	3			39			11		
Judicial execution.....													1			3		
Homicides.....							1											
Suicides.....	2	1					4	1		2			17			2		
Total violence.....	10	8	2	2			46	16	15	6			57			41		
SUMMARY.																		
I. Zymotic.....	13	33	3	23			254	228	242	195			80			65		
II. Constitutional.....	34	68	14	48			140	138	137	131			108			148		
III. Local.....	132	228	50	132			306	245	307	328			366			261		
IV. Developmental.....	27	58	23	45			83	72	63	79			27			59		
V. Violence.....	10	8	2	2			46	16	15	6			57			41		
Grand total from all causes, by sex and color.....	216	395	92	250			829	689	764	739			638			554		
Total from all causes, by color.....	611	342					1,528		1,563				1,192			1,090		
Percentages, by color, to total mortality.....	10.34	5.80					25.90		25.45				20.20			18.60		
Death rate per 1,000 inhabitants, by color.....	3.26	3.87					8.15		17.07				6.35			12.47		
Grand aggregate.....	953						3,031						2,291			582		
Death rate per 1,000 inhabitants, total population.....	3.46						11						8.31			2.12		

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TABLE II.—Statement showing the mortality from eleven prominent diseases, by months, during the decade ended June 30, 1896.

Disease.	Jan-uary.	Feb-ruary.	March.	April.	May.	June.	July.	Aug-ust.
Pneumonia	625	525	639	556	255	250	81	95
Bronchitis	202	210	224	176	130	75	65	52
Congestion of lungs	160	93	110	107	69	43	34	25
Phthisis pulmonalis	655	641	693	688	601	515	538	507
Diphtheria	87	51	51	49	55	68	73	117
Scarlet fever	32	40	68	68	57	43	9	19
Measles	53	89	85	50	37	23	17	3
Whooping cough	47	35	44	40	32	60	97	83
Diarrheal diseases	43	43	51	46	105	1,105	1,453	891
Typhoid fever	75	64	70	65	55	102	171	220
Tuberculosis	57	63	64	60	65	59	65	72

Disease.	Sep-tember.	Octo-ber.	Novem-ber.	Decem-ber.	Total.	Monthly average.	Month of maximum intensity.
Pneumonia	111	196	286	396	4,015	334.6	March.
Bronchitis	56	87	99	163	1,439	119.9	Do.
Congestion of lungs	39	68	76	98	922	76.8	January.
Phthisis pulmonalis	536	585	562	602	7,123	593.6	March.
Diphtheria	163	173	156	143	1,186	98.8	October.
Scarlet fever	12	11	12	15	386	32.2	Mar., Apr.
Measles	5	2	1	6	377	31.4	February.
Whooping cough	75	50	21	34	638	53.2	September.
Diarrheal diseases	504	235	75	58	4,609	384.1	July.
Typhoid fever	290	291	211	165	1,779	148.2	October.
Tuberculosis	67	65	61	54	752	62.7	September.

TABLE III.—Deaths under 1 year of age, arranged by months, for year ended June 30, 1896.

	1 day and under.	1 day to 1 week.	1 week to 1 month.	1 to 2 months.	2 to 3 months.	3 to 4 months.	4 to 5 months.	5 to 6 months.	6 to 7 months.	7 to 8 months.	8 to 9 months.	9 to 10 months.	10 to 11 months.	11 to 12 months.	Total.	Total by color.
July, 1895:																
White males	10	2	2	4	7	3	3	8	4	4	5	2	1	0	55	119
females	4	1	5	6	6	7	3	5	4	13	3	2	2	3	64	
Colored males	5	6	11	4	12	3	5	11	3	6	5	5	4	1	81	136
females	2	4	2	8	6	9	2	5	6	3	1	3	3	1	55	
Total	21	13	20	22	31	22	13	29	17	26	14	12	10	5	255	255
August, 1895:																
White males	0	2	8	9	5	6	6	3	5	2	2	1	4	3	56	91
females	4	0	1	3	3	2	2	4	1	3	3	4	4	1	35	
Colored males	5	6	3	7	7	6	1	5	3	1	5	2	1	5	57	92
females	4	3	1	3	5	2	6	3	1	2	3	0	1	1	35	
Total	13	11	13	22	20	16	15	15	10	8	13	7	10	10	183	183
September, 1895:																
White males	6	0	1	3	5	6	1	5	3	1	2	2	2	1	38	64
females	1	1	1	7	2	0	1	0	0	2	5	3	0	3	26	
Colored males	1	4	3	0	5	5	2	3	5	2	0	1	1	1	33	66
females	5	6	3	4	3	1	3	1	1	1	0	1	3	1	33	
Total	13	11	8	14	15	12	7	9	9	6	7	7	6	6	130	130
October, 1895:																
White males	2	5	7	4	4	2	3	0	2	1	0	0	2	2	34	55
females	8	1	2	2	1	0	3	0	0	0	1	1	1	1	21	
Colored males	5	5	5	5	6	3	4	1	2	1	0	3	1	0	41	68
females	2	5	3	1	8	1	3	0	0	0	1	3	0	0	27	
Total	17	16	17	12	19	6	13	1	4	2	2	7	4	3	123	123

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TABLE III.—Deaths under 1 year of age, arranged by months, for year ended June 30, 1896—Continued.

	1 day and under.	1 day to 1 week.	1 week to 1 month.	1 to 2 months.	2 to 3 months.	3 to 4 months.	4 to 5 months.	5 to 6 months.	6 to 7 months.	7 to 8 months.	8 to 9 months.	9 to 10 months.	10 to 11 months.	11 to 12 months.	Total.	Total by color.
November, 1895:																
White males.....	5	2	4	2	1	1	1	1	0	1	0	2	0	0	20	37
females.....	2	0	1	4	4	2	0	1	0	0	0	1	0	0	17	
Colored males.....	2	5	2	1	1	2	1	1	3	1	1	0	0	2	20	
females.....	5	3	4	4	3	2	1	1	3	2	2	1	0	0	31	
Total.....	14	10	11	11	9	7	3	4	6	4	3	4	0	2	88	88
December, 1895:																
White males.....	4	3	5	5	0	2	3	1	0	0	0	1	1	1	26	46
females.....	3	3	4	1	2	2	1	1	0	0	1	2	0	0	20	
Colored males.....	1	3	2	1	1	6	2	1	1	1	0	0	0	0	19	
females.....	2	4	2	1	4	1	1	0	2	1	1	1	0	0	20	
Total.....	10	13	13	8	7	11	7	3	3	2	2	4	1	1	85	85
January, 1896:																
White males.....	1	1	2	4	4	1	3	2	1	2	3	0	1	1	26	38
females.....	1	1	3	1	2	0	1	1	0	0	0	0	1	1	12	
Colored males.....	4	3	2	3	1	5	3	2	1	2	2	0	2	0	30	
females.....	5	2	4	2	2	0	4	2	5	0	0	1	1	1	29	
Total.....	11	7	11	10	9	6	11	7	7	4	5	1	5	3	97	97
February, 1896:																
White males.....	5	2	3	6	4	2	0	2	0	1	0	3	1	0	29	47
females.....	3	1	3	2	3	0	1	4	1	0	0	0	0	0	18	
Colored males.....	0	3	2	4	0	5	2	0	4	0	1	0	2	3	26	
females.....	3	2	1	2	3	0	3	0	3	0	1	0	0	3	21	
Total.....	11	8	9	14	10	7	6	6	8	1	2	3	3	6	94	94
March, 1896:																
White males.....	4	2	3	3	3	0	2	1	3	2	2	1	0	3	29	49
females.....	4	2	2	4	4	1	0	2	1	0	0	0	0	0	20	
Colored males.....	1	11	2	2	4	1	2	2	0	1	2	2	1	1	32	
females.....	3	6	1	0	4	2	1	2	1	2	1	2	2	2	29	
Total.....	12	21	8	9	15	4	5	7	5	5	5	5	3	6	110	110
April, 1896:																
White males.....	0	3	4	0	0	2	0	3	2	0	3	0	2	0	19	32
females.....	1	1	5	0	0	0	0	1	0	2	1	1	1	0	13	
Colored males.....	3	4	3	2	1	1	1	3	1	1	3	0	3	2	28	
females.....	3	2	4	1	0	2	1	4	0	0	1	0	1	3	22	
Total.....	7	10	16	3	1	5	2	11	3	3	8	1	7	5	82	82
May, 1896:																
White males.....	4	1	3	3	1	2	0	1	1	1	1	0	1	0	19	35
females.....	7	0	0	2	4	0	0	0	0	0	1	1	0	1	16	
Colored males.....	4	4	5	1	3	1	3	2	4	0	2	0	0	0	29	
females.....	1	3	0	3	3	1	4	0	0	1	0	0	0	2	18	
Total.....	16	8	8	9	11	4	7	3	5	2	4	1	1	3	82	82
June, 1896:																
White males.....	8	0	3	7	6	6	4	3	4	3	5	2	2	0	53	87
females.....	2	0	2	1	5	6	5	3	1	2	1	3	1	2	34	
Colored males.....	3	5	3	0	8	2	8	3	4	5	7	1	4	1	54	
females.....	1	2	5	5	9	5	2	10	7	5	1	0	0	1	53	
Total.....	14	7	13	13	28	19	19	19	16	15	14	6	7	4	194	194

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TABLE III.—Deaths under 1 year of age, arranged by months, for year ended June 30, 1896—Continued.

RECAPITULATION.

Age.	Grand total.	Per cent to total mortality under 1 year old.	Total white males.	Per cent to total mortality under 1 year old.	Total white females.	Per cent to total mortality under 1 year old.	Total colored males.	Per cent to total mortality under 1 year old.	Total colored females.	Per cent to total mortality under 1 year old.
1 day and under.....	159	10.4	49	12.1	40	13.5	34	7.6	36	9.6
1 day to one week.....	135	8.9	23	5.7	11	3.7	59	13.1	42	11.3
1 week to 1 month.....	147	9.7	45	11.1	29	9.8	43	9.6	30	8.4
1 month to 2 months.....	147	9.7	50	12.4	33	11.2	30	6.7	34	9.1
2 months to 3 months.....	175	11.4	40	9.9	36	12.2	49	10.8	50	13.4
3 months to 4 months.....	119	7.8	33	8.2	20	6.8	40	8.8	26	6.9
4 months to 5 months.....	108	7.1	26	6.4	17	5.7	34	7.6	31	8.3
5 months to 6 months.....	114	7.5	30	7.4	22	7.4	34	7.6	28	7.5
6 months to 7 months.....	93	6.1	25	6.2	17	5.7	31	6.9	29	7.7
7 months to 8 months.....	78	5.1	18	4.5	22	7.4	21	4.7	17	4.5
8 months to 9 months.....	79	5.2	23	5.7	16	5.4	28	6.2	12	3.2
9 months to 10 months.....	58	3.8	14	3.5	18	6.1	14	3.1	12	3.2
10 months to 11 months.....	57	3.7	17	4.2	10	3.4	19	4.2	11	2.9
11 months to 12 months.....	54	3.6	11	2.7	14	4.7	14	3.1	15	4.0
Total.....	1,523	100.0	404	100.0	296	100.0	450	100.0	373	100.0
Total by color.....			700				823			
Per cent to mortality under 1 year old, by color.....			45.96				54.04			

TABLE IV.—Number of deaths of children under 5 years of age from the principal diseases of children for the year ended June 30, 1896.

Diseases.	White.		Colored.	
	Deaths.	Percentage of total mortality under 5 years old.	Deaths.	Percentage of total mortality under 5 years old.
Measles.....	26	2.67	32	2.85
Croup.....	6	.61	1	.09
Diphtheria.....	46	4.73	5	.45
Scarlet fever.....	6	.61	2	.18
Typhomalarial fever.....	0	.00	1	.09
Diarrheal diseases.....	200	20.57	209	18.63
Whooping cough.....	12	1.23	10	.89
Inanition.....	23	2.36	35	3.12
Tubercular diseases (excluding consumption).....	6	.61	10	.89
Consumption.....	11	1.13	37	3.30
Acute diseases of brain.....	62	6.37	29	2.58
Convulsions.....	27	2.77	60	6.15
Trismus nascentium.....	9	.92	9	.80
Bronchitis.....	31	3.18	71	6.33
Congestion of lungs.....	20	2.05	44	3.92
Pneumonia.....	72	7.40	162	14.44
Diseases of the digestive organs.....	80	8.23	93	8.29
Developmental diseases.....	135	13.88	130	11.59
Accidents and negligence.....	12	1.23	7	.62
All others.....	188	19.34	166	14.79
Total.....	972	100.00	1,122	100.00
Percentage of mortality, by color, under 5 years old.....		46.42		53.58
Annual death rate by color.....		5.18		12.76

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TABLE V.—Number dying 70 years of age and over during the year ended June 30, 1896.

Age.	White.		Colored.		Total.	Age.	White.		Colored.		Total.
	Male.	Fe- male.	Male.	Fe- male.			Male.	Fe- male.	Male.	Fe- male.	
70 years.....	20	16	17	17	70	87 years.....	3	6	1	.....	10
71 years.....	19	15	4	3	41	88 years.....	4	2	.....	1	7
72 years.....	29	18	2	7	56	89 years.....	3	7	2	.....	12
73 years.....	12	16	4	1	33	90 years.....	3	2	4	7	16
74 years.....	22	15	2	4	43	91 years.....	1	2	.....	4	7
75 years.....	23	17	12	17	69	92 years.....	.....	.....	1	.....	1
76 years.....	19	10	2	2	33	93 years.....	2	2	.....	1	5
77 years.....	8	7	1	2	18	94 years.....	1	1	1	3	6
78 years.....	12	9	2	5	28	95 years.....	2	2	.....	4	8
79 years.....	23	11	2	4	40	96 years.....	.....	1	.....	1	2
80 years.....	12	14	8	9	43	97 years.....	1	.....	1	2	4
81 years.....	3	6	3	2	14	98 years.....	.....	.....	.....	1	1
82 years.....	6	6	2	3	17	99 years.....	.....	.....	.....	.....	.....
83 years.....	9	8	4	1	22	100 years and over	.....	.....	3	4	7
84 years.....	6	8	.....	5	19						
85 years.....	7	11	5	3	26						
86 years.....	4	9	.....	1	14						
						Total	254	221	83	114	672

TABLE VI.—Number and average ages, in years, of decedents dying from eighteen different diseases and from suicide during the year ended June 30, 1896.

Diseases.	White.				Colored.			
	Male.		Female.		Male.		Female.	
	Total deaths.	Years.	Total deaths.	Years.	Total deaths.	Years.	Total deaths.	Years.
Consumption.....	178	40	157	35	171	30	199	29
Typhoid fever.....	78	27	60	24	45	20	45	21
Apoplexy.....	88	60	51	61	30	48	40	53
Insanity.....	32	60	16	65	5	63	0	0
Softening of the brain.....	7	51	2	45	3	78	1	65
Paralysis, hemiplegia, and para- plegia.....	19	67	30	67	12	45	13	47
Cancers.....	31	57	84	56	10	51	30	50
Epilepsy.....	14	48	5	41	7	36	5	43
Diseases of the heart.....	125	57	107	54	82	52	80	50
Bright's disease and nephritis.....	63	49	49	50	32	45	35	40
Rheumatism.....	12	42	6	48	7	43	9	43
Aneurisms.....	7	44	2	31	4	47	1	65
Angina pectoris.....	9	58	4	60	2	45	1	45
Gastritis.....	9	51	15	44	1	1	6	44
Cirrhosis of liver.....	15	60	7	49	1	45	3	55
Dropsy.....	2	55	7	60	3	34	3	51
Diabetes.....	4	47	6	47	2	45	1	45
Hernia.....	0	0	2	70	1	1	0	9
Suicide.....	30	41	5	45	1	35	2	35

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TABLE VII.—*Number of deaths occurring in hospitals and other public institutions during the year ended June 30, 1896.*

Hospitals, etc.	White.		Colored.		Total.
	Males.	Females.	Males.	Females.	
Canal, Chesapeake and Ohio.....	1	0	2	0	3
Canal, James Creek.....	0	1	1	0	2
Children's Hospital.....	13	10	22	8	53
Columbia Hospital.....	6	10	4	24	44
Central Dispensary and Emergency Hospital.....	25	5	17	6	53
Freedmen's Hospital.....	11	3	121	67	202
Garfield Hospital.....	42	23	12	19	96
Government Hospital for the Insane.....	129	28	20	13	190
Georgetown College.....	2	0	1	0	3
Georgetown Convent.....	0	2	0	0	2
Home for the Aged (Little Sisters of the Poor).....	11	10	5	4	30
Home for Incubables.....	4	8	0	0	12
Louise Home.....	0	4	0	0	4
Long Bridge.....	2	0	0	0	2
Methodist Home.....	0	1	0	0	1
National Homeopathic Hospital.....	5	10	1	1	17
Naval Hospital (United States).....	3	0	0	0	3
Navy Department.....	0	0	1	0	1
Patent Office.....	0	1	0	0	1
Potomac River.....	12	2	12	0	26
Police stations.....	4	1	3	2	10
Providence Hospital.....	82	33	7	12	134
Railway stations.....	4	0	0	0	4
Reform School.....	0	1	0	0	1
Soldiers' Home.....	46	1	3	0	50
Sibley Memorial Hospital.....	3	4	0	0	7
St. Ann's Asylum.....	16	24	15	17	72
St. Vincent's Orphan Asylum.....	0	2	0	0	2
Treasury Department.....	1	0	0	0	1
War Department.....	1	0	1	0	2
Washington Asylum Hospital.....	27	16	57	51	151
Washington jail.....	1	0	4	0	5
Washington National Home.....	0	0	1	1	2
White House.....	0	0	1	0	1
Washington Army Post Barracks.....	1	0	0	1	2
Washington Foundling Hospital.....	39	27	2	0	68
Total.....	491	227	313	226	1,257

TABLE VIII.—*Deaths and average ages for the year ended June 30, 1896.*

WHITE MALES.

Months.	All ages.				5 years and over.				20 years and over.				40 years and over.			
	Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.		
		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.
1895.																
July.....	157	29	2	23	89	51	3	3	82	54	0	0	65	61	5	11
August.....	151	29	0	7	84	51	9	4	78	54	6	18	59	62	3	1
September.....	143	31	5	28	95	47	0	15	86	50	1	12	57	60	10	3
October.....	199	36	4	0	146	49	0	17	135	52	0	0	97	60	0	0
November.....	141	38	7	22	111	48	10	11	105	51	0	24	71	60	0	25
December.....	156	38	10	0	116	52	0	12	106	55	11	3	84	61	9	0
1896.																
January.....	148	36	5	9	107	50	2	19	95	55	2	10	74	61	4	3
February.....	165	38	10	12	127	50	3	12	114	54	6	6	90	61	2	4
March.....	158	36	11	5	114	50	9	11	105	54	0	0	77	61	9	1
April.....	140	44	4	16	114	54	3	17	110	55	9	20	88	62	0	8
May.....	111	38	2	28	84	50	2	21	80	52	0	0	61	60	1	0
June.....	141	29	5	3	83	49	4	20	74	54	6	10	56	62	5	24
Total and mean..	1,810	35	2	25	1,270	50	5	6	1,170	53	7	21	879	61	3	6

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TABLE VIII.—Deaths and average ages for the year ended June 30, 1896—Continued.

WHITE FEMALES.

Months.	All ages.				5 years and over.				20 years and over.				40 years and over.			
	Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.		
		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.
1895.																
July.....	146	24	0	0	69	50	0	0	62	54	0	0	46	62	0	16
August.....	146	32	9	0	93	50	9	20	81	56	2	11	63	62	6	14
September.....	99	31	6	27	64	48	6	22	57	53	0	25	43	61	6	4
October.....	158	37	1	5	124	47	0	12	102	54	9	1	75	64	0	0
November.....	118	36	1	21	96	44	3	7	86	50	0	0	55	59	0	0
December.....	105	37	7	13	75	52	4	0	73	53	5	7	54	61	7	0
1896.																
January.....	134	40	0	0	107	51	1	23	90	58	6	0	76	64	5	4
February.....	124	40	9	25	97	51	3	11	87	56	2	21	65	63	10	15
March.....	134	41	9	14	101	55	2	26	94	58	1	1	76	64	5	18
April.....	116	38	5	20	89	50	0	0	80	53	8	3	56	61	4	15
May.....	109	41	2	9	88	50	10	0	83	53	6	11	57	63	2	10
June.....	103	31	3	15	62	51	5	24	56	56	0	0	40	65	8	5
Total and mean..	1,492	36	0	22	1,065	50	2	29	951	54	19	14	706	63	0	2

COLORED MALES.

1895.																
July.....	150	17	5	0	59	43	8	4	48	50	6	16	31	61	5	0
August.....	133	20	11	8	66	40	10	27	50	48	9	16	32	60	0	11
September.....	109	20	0	0	61	32	8	2	47	40	8	20	22	56	7	19
October.....	113	20	2	0	56	40	0	0	48	43	4	0	28	56	0	5
November.....	85	26	5	28	54	41	1	23	45	46	4	24	26	60	4	25
December.....	86	30	3	2	57	45	2	15	48	50	0	0	35	58	4	4
1896.																
January.....	100	26	8	8	60	44	0	17	54	47	8	20	34	58	7	0
February.....	100	22	6	17	55	40	3	15	46	46	0	0	30	58	9	6
March.....	114	24	7	0	62	44	5	0	51	51	4	0	35	60	9	0
April.....	102	26	0	10	64	41	0	0	50	49	3	4	34	60	0	0
May.....	82	26	1	10	45	47	0	24	41	50	3	6	26	60	9	21
June.....	116	18	7	10	53	40	0	0	46	44	0	8	27	56	0	13
Total and mean..	1,290	23	3	25	682	41	8	13	574	47	4	12	360	58	11	19

COLORED FEMALES.

1895.																
July.....	118	20	0	12	53	44	0	0	46	48	10	13	31	58	0	23
August.....	126	26	0	0	77	42	1	0	54	54	2	20	38	65	1	7
September.....	108	22	10	3	63	40	0	0	43	51	4	14	25	66	9	4
October.....	93	25	9	16	55	43	1	3	42	52	4	8	27	60	0	0
November.....	105	25	0	0	65	40	1	13	55	44	7	6	28	60	4	21
December.....	82	28	10	8	56	42	0	0	45	48	6	0	28	60	0	0
1896.																
January.....	126	27	9	1	80	43	1	16	69	47	10	7	48	56	0	0
February.....	104	29	0	7	64	46	9	17	58	50	0	0	35	63	10	18
March.....	122	26	3	5	72	44	0	22	62	49	6	17	42	58	0	0
April.....	121	28	4	11	85	40	0	0	63	48	6	26	42	57	8	0
May.....	92	26	6	27	62	40	0	0	48	46	2	22	23	62	0	0
June.....	115	19	0	0	55	40	6	23	48	42	5	0	24	57	0	0
Total and mean..	1,312	25	5	17	787	42	1	19	633	48	6	11	391	60	4	26

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TABLE VIII.—Deaths and average ages for the year ended June 30, 1896—Continued.

RECAPITULATION.

Months.	All ages.				5 years and over.				20 years and over.				40 years and over.			
	Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.			Total deaths.	Average ages.		
		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.		Years.	Months.	Days.
White:																
Male.....	1,810	35	2	25	1,270	50	5	6	1,170	53	7	21	879	61	3	6
Female.....	1,492	36	0	22	1,065	50	2	29	951	54	19	14	706	63	0	2
Total and mean..	3,302	35	7	23	2,335	50	4	2	2,121	54	7	17	1,585	62	1	19
Colored:																
Male.....	1,290	23	3	25	682	41	8	13	574	47	4	12	360	58	11	19
Female.....	1,312	25	5	17	787	42	1	19	633	48	6	11	391	60	4	26
Total and mean..	2,602	24	4	21	1,469	41	11	1	1,207	47	11	11	751	59	8	7
White.....	3,302	35	7	23	2,335	50	4	2	2,121	54	7	17	1,585	62	1	19
Colored.....	2,602	24	4	21	1,469	41	11	1	1,207	47	11	11	751	59	8	7
Grand total.....	5,904	30	0	7	3,804	46	1	16	3,328	51	3	14	2,336	60	10	28

TABLE IX.—Cemeteries and number of decedents buried therein, including those transported out of the District of Columbia for interment, for the year ended June 30, 1896.

Cemetery.	White.	Colored.	Total.
Addison Chapel.....	4		4
Adas Israel.....	7		7
Agudas Achim.....	4		4
Baptist of Reno.....		9	9
Carroll Chapel.....	1		1
Christian, of Tenley.....		10	10
Congressional.....	528	1	529
Convict of the Visitation.....		1	1
Episcopal, of Tenley.....	1		1
Glenwood.....	355		355
Harmony.....	1	734	735
Hillsdale.....		44	44
Holyrood.....	120	21	141
Hospital of St. Elizabeth (Insane).....	103	24	127
Jones's Chapel.....		12	12
Lee's Crematory.....	2		2
Macedonia, of Hillsdale.....		9	9
Museum, Army Medical.....		1	1
Methodist, of Tenley.....	40		40
Mount Olivet.....	616	223	839
Mount Zion.....		185	185
Moore's, of Anacostia.....	3	206	209
National, of Arlington.....	86	20	106
National, of Soldiers' Home.....	57	3	60
Oak Hill.....	158		158
Outside of District.....	545	242	787
Oxon Hill.....	3	3	6
Payne's, of Bennings.....	2	387	389
Potter's field.....	111	397	508
Prospect Hill.....	130		130
Rock Creek.....	301		301
Russian Hebrew.....	13		13
Seages.....		1	1
Sibley Memorial Hospital.....	1		1
Smith's.....		10	10
St. Mary's.....	70		70
Talmud Tora.....	2		2
University of Georgetown.....	3		3
Washington Hebrew.....	10		10
Woodlawn.....	24	60	84
Total.....	3,302	2,602	5,904

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and ages;

JULY, 1895.

Day of month.	Color.	Mortality.																																			
		Total deaths, less those by violence.	Deaths by violence.				Deaths, by ages.					Group.	Diphtheria.	Diarrhœal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths.									
			Accidents and negligence.	Judicial execution.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.																											
										Scarlet fever.																											
1.....	W. C.	9					6	7		2	1		3	4																18							
2.....	W. C.	3					2	4					2	4																16							
3.....	W. C.	10					2	6					3	2																19							
4.....	W. C.	9					2	5					4																	18							
5.....	W. C.	8	1				1	3		1			3	2																25							
6.....	W. C.	16					1	10		2			3	4																18							
7.....	W. C.	10					1	8		4			4																	17							
8.....	W. C.	11	1				2	7		1			3	3																15							
9.....	W. C.	4	1				1	1		1			2	2																30							
10.....	W. C.	16					3	7		1			5	5																24							
11.....	W. C.	13					9	9		1			2	2																12							
12.....	W. C.	8	1				1	5		1			1	1																22							
13.....	W. C.	14					3	6					1	1																26							
14.....	W. C.	7					1	7					4	3																20							
15.....	W. C.	12					1	5		1			3	3																26							
16.....	W. C.	10					4	5		1			1	1																24							
17.....	W. C.	14	1				2	6		1			2	2																29							
18.....	W. C.	13					3	9		2			1	1																19							
19.....	W. C.	11					3	5		1			3	3																21							
20.....	W. C.	15					4	9		1			2	2																23							
21.....	W. C.	11					3	4					3	1																7							
22.....	W. C.	8					1	4					2	1																18							
23.....	W. C.	7					1	4					1	1																10							
24.....	W. C.	14					1	7					2	2																8							
25.....	W. C.	12					2	6		2			3	3																13							
26.....	W. C.	10					2	7					5	1																21							
27.....	W. C.	6	1				3	3					4																	23							
28.....	W. C.	8					7	7		1			1	4																15							
29.....	W. C.	2					1	2					3	1																7							
30.....	W. C.	4	1				2	1					1	2																18							
31.....	W. C.	12					4	5					4	2																10							
Total and mean.	W. C.	288	9	1	0	5	54	138	17	14	2	1	2	7	0	1	20	8	4	5	0	29	15	1	1	29	92	303	571								
	C.	261	5	1	1	0	28	156	17	6	0	0	2	7	5	0	34	9	4	5	1	20	17	1	1	26	61	268									

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also daily meteorological conditions and variations for year ended June 30, 1895.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

JULY, 1895.

Meteorological.												
Mean barometer.	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Mean.	Maximum.	Minimum.	Range.			8 a. m.	8 p. m.			
29.99	80	71	74	68	6	65	62	N.	N.	126	1.49	1
30.16	70	68	77	60	17	62	58	N.	NE.	137	.....	2
30.21	64	68	80	57	23	62	56	W.	NW.	123	.....	3
30.05	74	69	76	62	14	60	56	NW.	SW.	127	.08	4
29.85	87	68	75	62	13	64	62	W.	SW.	129	.58	5
29.86	84	74	84	64	20	68	66	W.	S.	94	.04	6
29.83	76	78	88	67	21	70	68	SW.	W.	110	.....	7
29.74	85	78	86	71	15	73	72	E.	.....	140	T.	8
28.87	65	80	89	72	17	70	66	NW.	NW.	194	.02	9
30.15	61	67	75	59	16	57	52	NW.	NW.	171	.....	10
30.15	74	63	68	58	10	59	56	N.	S.	80	.01	11
30.16	83	65	77	53	24	63	61	S.	S.	106	.....	12
30.07	74	72	83	61	22	66	62	SW.	NW.	118	.....	13
30.11	70	67	77	57	20	58	54	.....	NW.	61	.....	14
30.01	69	67	78	56	22	63	59	.....	E.	112	T.	15
29.91	92	76	84	68	16	69	68	SW.	NW.	88	.63	16
29.56	76	78	90	66	24	72	70	W.	S.	87	.....	17
30.01	62	82	91	72	19	70	66	NW.	N.	138	.....	18
30.14	62	74	88	61	27	67	62	NE.	SE.	101	.....	19
30.03	78	80	94	67	27	73	70	.....	SE.	125	.01	20
30.00	72	82	94	71	23	72	69	S.	S.	94	.....	21
29.98	74	80	87	74	13	74	72	NW.	SW.	121	T.	22
30.05	73	80	86	73	13	71	68	NW.	N.	114	T.	23
30.06	92	70	78	62	16	62	62	NW.	E.	82	.82	24
29.88	89	70	80	61	19	64	64	SW.	SW.	89	.21	25
29.97	76	72	84	60	24	67	64	SW.	S.	82	.06	26
29.87	86	76	86	65	21	68	68	S.	S.	153	.45	27
29.98	82	70	77	64	13	64	62	NW.	W.	180	.04	28
30.00	75	72	82	61	21	64	71	NW.	S.	80	.....	29
29.83	64	72	81	64	17	63	58	S.	NW.	135	.06	30
30.00	54	64	75	52	23	55	48	NW.	NW.	158	31
30.00	74.8	72.7	82.1	63.5	18.6	65.4	62.5	NW.	NW.	{3,685	4.50	

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and

AUGUST, 1895.

Day of month.	Color.	Mortality.																																													
		Total deaths, less those by violence.	Deaths by violence.			Deaths, by ages.							Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.																		
			Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	Scarlet fever.	Croup.																																				
1.....	W. C. C.	9	1					4	5				2	1									2			4	10		19																		
2.....	W. C. C.	12				3			6				1	1												3	6	12		24																	
3.....	W. C. C.	11	1			3		1	3				2	2								1				2	6	12		15																	
4.....	W. C. C.	14				2		4	8				1	1												1	4	14		21																	
5.....	W. C. C.	7				1		1	4				2	2							1						1	4	7	22																	
6.....	W. C. C.	15				2		4	4				4	1	1							2			1	1	15		15																		
7.....	W. C. C.	11	7			4		3	3				1	1								2			1	3	12		21																		
8.....	W. C. C.	13	4			3		7	3				3	1							1		2		5	5	13	8		23																	
9.....	W. C. C.	9	1			2		3	3				3	3							1		1		1	6	9		15																		
10.....	W. C. C.	8				2		3	2				1	1							1		4		1	5	8		15																		
11.....	W. C. C.	8	2			2		2	2				2	2								1			2	3	10		18																		
12.....	W. C. C.	12	7			3		6	5				2	2								2			1	3	12		19																		
13.....	W. C. C.	15	9			5		4	4				1	1								2			2	3	15		25																		
14.....	W. C. C.	7				2		3	1				3	2								1			1	5	7		12																		
15.....	W. C. C.	5	2			4		3	1				1	1								3			1	4	10		23																		
16.....	W. C. C.	10				1		7	1				3	3								1			1	4	13		20																		
17.....	W. C. C.	11				2		6	1				2	2								4			1	5	11		24																		
18.....	W. C. C.	13				2		4	2				3	3								1			1	4	9		15																		
19.....	W. C. C.	9	1			4		6	3				2	2								1			1	3	12		20																		
20.....	W. C. C.	11				4		3	1				1	1								2			1	2	13		23																		
21.....	W. C. C.	8				1		4	1				1	1								2			1	1	3		14																		
22.....	W. C. C.	7	2			6		3	4				1	1								2			1	12	10		17																		
23.....	W. C. C.	7				1		4	1				1	1								1			1	4	8		12																		
24.....	W. C. C.	3				2		2	1				1	1								2			1	4	8		15																		
25.....	W. C. C.	4				2		3	2				1	1								1			1	2	6		16																		
26.....	W. C. C.	9	6			5		4	2				2	2								1			3	6	7		23																		
27.....	W. C. C.	14	2			2		5	4				2	1								1			3	6	10		11																		
28.....	W. C. C.	6				1		4	2				1	1								1			1	1	6		12																		
29.....	W. C. C.	5				2		3	1				1	1								2			1	1	5		11																		
30.....	W. C. C.	5				2		4	2				1	2								1			2	2	6		12																		
31.....	W. C. C.	8				1		3	1				1	1								2			1	3	8		19																		
1.....	W. C. C.	10				1		4	1				1	2								1			2	1	11		16																		
2.....	W. C. C.	8				2		3	1				1	1								1			1	1	8		16																		
3.....	W. C. C.	6				2		2	2				1	1								1			2	2	8		11																		
4.....	W. C. C.	7				2		3	1				1	1								2			1	1	3		18																		
5.....	W. C. C.	10				2		3	1				1	2								3			3	1	10		20																		
6.....	W. C. C.	8				2		3	1				1	1								1			1	1	8		18																		
7.....	W. C. C.	11				2		5	6				1	1								2			1	5	11		17																		
8.....	W. C. C.	8				3		2	2				1	1								4			1	2	6		14																		
9.....	W. C. C.	6				3		2	1				1	2								1			1	2	6		14																		
Total and mean.	W. C. C.	280	14	0	3	68	119	6	5	9	1	0	5	43	13	1	6	21	4	1	1	36	14	2	39	92	297	556																			
	W. C. C.	250	9	0	0	36	115	18	9	0	0	0	2	46	14	1	3	30	3	7	2	30	17	2	21	71	259																				

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ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T, indicates trace of precipitation.]

AUGUST, 1895.

Meteorological.												
Mean barometer.	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Mean.	Maximum.	Minimum.	Range.			8 a. m.	8 p. m.			
30.02	62	66	77	54	23	59	54	W.	NW.	114	.....	1
30.04	66	68	81	55	26	61	56	W.	S.	86	.....	2
29.94	66	74	84	63	21	64	60	W.	SE.	180	.....	3
29.86	90	78	86	69	17	68	68	S.	SE.	122	0.11	4
29.98	72	76	89	64	25	68	64	W.	SE.	97	T.	5
29.94	82	79	89	69	20	72	71	S.	SE.	187	.27	6
29.90	76	80	87	72	15	70	67	SW.	NE.	126	.15	7
30.02	72	78	90	66	24	72	68	S.	SW.	69	.01	8
30.06	78	81	95	67	28	74	72	.....	SE.	64	.....	9
29.94	69	84	96	72	24	74	70	S.	S.	92	.....	10
29.84	66	85	97	73	24	74	70	W.	NW.	93	.....	11
29.81	68	81	91	71	20	74	70	NW.	SW.	104	.....	12
29.92	71	81	91	71	20	72	68	N.	NE.	108	.....	13
30.01	60	80	88	71	17	68	62	NE.	E.	113	.....	14
30.06	74	80	91	68	23	70	69	N.	E.	93	.....	15
30.04	72	80	92	68	24	72	67	NE.	SE.	111	.....	16
29.88	91	76	81	71	10	69	70	S.	SE.	103	.32	17
29.80	89	80	88	71	17	72	67	NW.	NW.	130	.....	18
29.91	56	75	83	67	16	67	56	NW.	NW.	229	.....	19
30.04	60	68	81	54	27	59	56	SW.	W.	144	T.	20
30.10	66	70	78	63	15	61	56	NW.	S.	121	.....	21
30.24	64	69	81	57	24	58	56	NE.	SE.	157	.....	22
30.14	78	76	89	62	27	67	68	S.	S	137	.....	23
29.90	62	82	94	71	23	72	67	SW.	SW.	208	.....	24
30.08	63	77	87	67	20	68	60	NW.	SE.	139	T.	25
30.09	66	74	89	60	29	66	61	SW.	S.	126	.....	26
30.02	85	76	82	71	11	66	70	S.	SE.	102	.31	27
29.96	80	80	92	69	23	71	72	SW.	SE.	85	.....	28
29.93	75	84	95	73	22	74	71	S.	SW.	107	.04	29
30.04	78	78	85	70	15	74	68	NE.	E.	131	.02	30
29.98	86	80	88	71	17	71	70	S.	N.	128	.03	31
29.98	72.0	77.3	87.6	66.8	20.9	68.8	65.4	S.	SE.	{3,806	1.26	

1084 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

SEPTEMBER, 1895.

Day of month.	Color.	Mortality.																
		Total deaths, less those by violence.	Deaths by violence.	Deaths, by ages.					Scarlet fever.	Group.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fever.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.
				Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.										
1	W.	9				2	4					1						
	C.	6				1	4					1						
2	W.	6	1			1	2				1	1						
	C.	10	1			7	7				2	1						
3	W.	5	1			4	4					1						
	C.	5				2	3					1						
4	W.	9			1	1	4					1						
	C.	5				1	4					1						
5	W.	6				1	3					2						
	C.	7				1	3					1						
6	W.	13	1		1	3	4					3						
	C.	8				5	6					3						
7	W.	7				1	2					1						
	C.	8				2	2					1						
8	W.	8	1			1	2					1						
	C.	3				1	1					1						
9	W.	8				1	4					1						
	C.	11				1	3					2						
10	W.	3				2	5					1						
	C.	10				2	5					1						
11	W.	8	1			3	1					1						
	C.	6	2			1	3					1						
12	W.	5	1			1	3					2						
	C.	2				3	1					1						
13	W.	5	1			3	1					1						
	C.	6				1	2					1						
14	W.	6	1			3	1					1						
	C.	6				1	3					1						
15	W.	14				1	3					1						
	C.	9				2	2					1						
16	W.	11				2	5					1						
	C.	7	1			1	3					1						
17	W.	10				5	2					1						
	C.	5				2	1					1						
18	W.	6				3	2					1						
	C.	8				1	1					2						
19	W.	8				2	1					1						
	C.	6				2	4					1						
20	W.	8				1	1					1						
	C.	5				1	2					2						
21	W.	12	1			3	5					4						
	C.	7				1	1					1						
22	W.	7				1	3					1						
	C.	6				2	3					1						
23	W.	7				2	1					1						
	C.	2				3	1					2						
24	W.	10				1	3					2						
	C.	5	1			1	1					1						
25	W.	13				4	5					1						
	C.	8				3	7					1						
26	W.	7				3	3					1						
	C.	7				1	3					1						
27	W.	10	2			1	5					2						
	C.	8				4	1					1						
28	W.	6				1	3					1						
	C.	3				2	3					1						
29	W.	6				2	2					1						
	C.	7				1	2					1						
30	W.	227	13	0	2	47	82	9	7	0	3	28	2	5	24	8	3	2
	C.	211	4	1	1	19	97	16	0	0	2	33	27	3	6	23	5	1
Total and mean.	W.	227	13	0	2	47	82	9	7	0	3	28	2	5	24	8	3	2
	C.	211	4	1	1	19	97	16	0	0	2	33	27	3	6	23	5	1

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

SEPTEMBER, 1895.

Meteorological.												
Mean barometer.	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Mean.	Maximum.	Minimum.	Range.			8 a. m.	8 p. m.			
30.11	69	66	71	60	11	56	51	NE.	N.	147	.....	1
30.06	70	64	78	50	28	58	54	NE.	E.	70	.....	2
30.06	68	70	81	60	21	61	57	S.	S.	168	.....	3
30.04	74	70	84	56	28	64	61	S.	SE.	137	.....	4
30.07	81	72	83	62	21	67	65	NE.	NE.	111	.....	5
30.05	96	71	74	65	6	68	68	NW.	NW.	168	0.59	6
30.07	87	74	84	64	20	68	66	NW.	E.	104	T.	7
30.10	91	74	82	66	16	70	69	NE.	NE.	81	.....	8
30.19	76	74	85	63	22	67	64	N.	S.	108	.....	9
30.20	86	78	87	70	17	72	70	S.	SE.	94	.....	10
30.12	80	78	90	67	23	71	69	S.	SE.	87	.....	11
29.90	69	83	96	70	26	71	68	S.	SW.	115	.....	12
29.94	56	76	83	68	15	63	56	NW.	N.	226	.....	13
30.21	58	62	69	54	15	51	44	N.	NE.	183	.....	14
30.38	52	56	66	46	20	46	37	NE.	E.	151	.....	15
30.18	74	64	79	48	31	60	56	S.	S.	143	T	16
30.00	83	76	87	65	22	68	66	W.	N.	90	.01	17
29.82	79	75	84	66	18	70	67	S.	W.	149	.29	18
30.00	79	82	96	69	27	72	69	W.	S.	93	T.	19
30.14	84	82	94	69	25	74	73	S.	.....	67	T.	20
30.16	76	83	96	70	26	71	69	SE.	N.	85	.....	21
30.09	68	82	98	66	32	71	68	SW.	NE.	68	.....	22
30.08	66	82	98	66	32	69	65	SW.	S.	89	.....	23
30.18	56	76	84	69	15	62	55	N.	E.	145	T.	24
30.11	84	75	85	65	20	70	68	NE.	SE.	106	T.	25
29.96	80	82	94	70	24	70	68	S.	W.	156	.06	26
30.08	52	69	74	64	10	51	48	NW.	N.	198	.....	27
30.18	60	60	72	48	24	52	46	N.	SE.	100	.....	28
29.95	80	65	77	53	24	53	50	SW.	NW.	185	T.	29
30.03	54	52	59	45	14	42	53	W.	NW.	236	.16	30
30.09	72.8	72.4	83.0	61.9	21.1	63.7	60.1	S.	S.	{3,860	1.11	

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

OCTOBER, 1895.

[illegible]

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

OCTOBER, 1895.

Meteorology.											
Mean barometer.	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.
		Mean.	Maximum.	Minimum.	Range.			8 a. m.	8 p. m.		
30.31	64	52	62	41	21	42	35	W.	NW.	168	.....
30.26	76	54	70	37	33	46	42	NW.	SE.	82	.....
30.15	70	56	73	39	34	48	44	W.	N.	107	.....
30.13	66	60	70	49	21	50	45	N.	NE.	164	.....
29.99	68	56	67	46	21	48	42	N.	N.	146	.....
29.87	76	59	73	45	28	50	46	NW.	W.	73	.....
29.74	79	60	73	47	26	54	51	NW.	SE.	79	T.
29.87	66	54	60	49	11	46	39	NW.	NW.	266	0.18
30.23	60	44	51	37	14	37	30	NW.	NW.	188	T.
30.43	66	42	55	30	25	37	30	.....	SE.	83	.....
30.26	68	50	62	38	24	46	41	.....	SE.	179	.....
29.86	80	58	64	52	12	50	46	SW	NW.	215	.39
29.77	54	59	67	51	16	48	40	NW.	NW.	486	.07
30.03	62	59	66	52	14	48	41	NW.	NW.	245	.....
30.14	65	54	65	43	22	44	38	NE.	N.	132	.....
29.89	88	50	62	39	23	48	46	N.	NE.	137	.....
29.99	51	54	60	40	11	44	34	NW.	NW.	224	.....
30.20	69	50	65	36	29	44	38	NW.	SE.	129	.....
29.93	52	60	74	45	29	49	38	S.	S.	268	.....
30.00	53	46	55	38	17	36	27	NW.	W.	196	.....
30.05	55	44	54	34	20	36	28	N.	NW.	143	.....
30.10	66	50	70	29	41	42	38	N.	S.	150	.....
30.19	58	52	59	44	15	42	34	NW.	NW.	175	.....
30.25	63	44	60	29	31	38	31	N.	NW.	90	.....
29.99	43	56	68	44	24	43	30	S.	W.	153	.....
29.99	68	52	69	35	34	42	36	W.	S.	85	.....
29.86	72	56	74	39	35	50	46	N.	S.	151	.....
30.00	48	58	66	50	16	46	34	SW.	NW.	240	T.
30.33	44	44	54	34	20	35	23	NW.	NW.	160	.....
30.02	56	41	50	32	18	32	24	NW.	NW.	151	.....
30.13	92	40	48	32	16	44	43	NE.	N.	217	1.30
30.09	64.4	52.1	63.4	40.8	27.6	44.0	37.4	NW.	S.	{5,282	1.94

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

NOVEMBER, 1895.

Day of month.	Color.	Mortality.																												
		Total deaths, less those by violence.	Accidents and negligence.	Deaths by violence.			Deaths, by ages.					Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Phtisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.
				Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.																						
1	W.	18					4	4								1			1	4	1		2	1	4	4	18	27		
	C.	9					1	4	2										2	1	1					2	9			
2	W.	6					1	2	1						1				1	1	1					1	6	15		
	C.	9					1	6	2	2									2	2										
3	W.	7											1						1	1	1						7	11		
	C.	4					2												1	1	1									
4	W.	5					1		1						1	1			2	2	1					3	5	11		
	C.	6					4	1	1										1	1	1					1	6			
5	W.	12					2		5	1	1				1	1			2	1					2	4	12	16		
	C.	4					1	1											1	1	1					1	1			
6	W.	9					1	3	3										3	4						1	9	18		
	C.	9					2	1	1										2	2	1					1	9			
7	W.	7					2	1	1										3	1	1					1	7	14		
	C.	6	1				1												1	1	1					1	7			
8	W.	9					3	4						1					2	1						1	5	14		
	C.	9					2	2											1	2	1					1	9			
9	W.	10					3		2						1	3			1	1					2	3	11	18		
	C.	6	5				2	3	2	1									1	1						1	7			
10	W.	7	2				2	2							1				1	1						3	7	14		
	C.	9					2	1											2	2						3	9			
11	W.	5					2	2											1	1						3	7			
	C.	7					2	1											1	1						3	5	15		
12	W.	8					1	5											2	2						1	8			
	C.	8					2	2											1	1						3	9			
13	W.	5	1				2	4							1	1			2	2						3	11	22		
	C.	11					2	2											1	1						3	11			
14	W.	5					3	1	1						1				3	1						3	5	7		
	C.	2					1												1	1						1	2			
15	W.	8					1								2				3	3						3	8	9		
	C.	1					1	1	1										2	1						1	1			
16	W.	1					4	1											2	1						1	8	15		
	C.	8					3	2											1	1						2	7			
17	W.	7					1	1											1	1						3	11	17		
	C.	6					2	2	1										2	2						1	6			
18	W.	0					2	1											3							3	8	9		
	C.	8																		1						1	1			
19	W.	3					3	2											1	1						1	3	11		
	C.	7	1				2	2	1	1					1				1	1						2	8			
20	W.	4																								1	4	11		
	C.	7					2	1											1	1						1	7			
21	W.	12	2				5	1	1										2	1						5	14	20		
	C.	6					1	1											1	1						1	9			
22	W.	9					2	2							2				1	1						1	1	21		
	C.	10	2				5	1	3										3	1						4	12			
23	W.	7					1	3	1										1	1						1	7	13		
	C.	6					2	1											3	2						1	2			
24	W.	13					2	1											4	2						1	3	21		
	C.	7					2	2	1										1	1						1	2			
25	W.	7					1												1	1						1	2	7		
	C.	3					4	1											2	1						4	3	10		
26	W.	3					1	1											1	1						1	2			
	C.	11					2	2											1	1						1	8			
27	W.	7					2	2	1	1									1	1						1	3	12		
	C.	6					1												1	1						2	6			
28	W.	6					1	1	1	2									1	1						1	1	16		
	C.	5	1				2	4	1										1	2						1	10			
29	W.	10					2	3											1	1						1	1	8		
	C.	8					1	4	1	1									1	1						5	7	15		
30	W.	7					4	4	1	1									1	1						5	7	15		
Total and mean.	W. C.	251 183	6 5	0 2	0 2	57 28	52 66	9 14	7 7	0 2	1 0	7 3	9 15	0 9	5 6	28 30	22 22	6 4	5 9	1 28	19 11	1 1	25 11	259 190	449					

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

NOVEMBER, 1895.

Meteorological.												
Mean barometer.	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Mean.	Maximum.	Minimum.	Range.			8 a. m.	8 p. m.			
30.10	70	48	53	44	9	42	37	W.	N.	202	0.01	1
30.15	84	39	42	36	6	36	33	W.	NW.	144	.10	2
30.44	87	43	57	29	28	36	34	W.	E.	52	.....	3
30.58	84	46	61	30	31	40	37	.....	NE.	90	.....	4
30.54	95	56	66	46	20	50	49	N.	NW.	87	.01	5
30.44	95	54	61	48	13	51	51	N.	NE.	87	T.	6
30.30	91	60	67	52	15	56	55	NE.	NE.	72	T.	7
30.04	97	63	67	59	8	57	62	NE.	SE.	80	.05	8
29.86	80	70	77	64	13	64	62	SE.	S.	286	.....	9
30.16	86	42	44	40	4	40	37	NW.	NW.	244	.57	10
30.56	72	36	38	35	3	33	28	N.	N.	158	T.	11
30.37	74	38	45	30	15	32	28	N.	N.	218	.....	12
30.37	74	40	49	32	17	34	29	N.	NE.	205	.....	13
30.29	94	40	46	33	13	41	41	N.	N.	163	.10	14
30.00	91	51	58	44	14	48	47	NW.	S.	101	.03	15
30.04	81	46	56	37	19	42	39	.....	E.	105	.....	16
29.96	92	48	54	42	12	44	42	N.	SW.	75	.01	17
30.00	81	49	62	36	26	41	38	SE.	S.	87	.....	18
29.76	75	51	66	36	30	44	39	NW.	S.	92	.....	19
29.50	61	38	44	33	11	33	25	NW.	W.	382	.13	20
30.12	70	33	40	26	14	27	22	SW.	NW.	217	.....	21
30.49	68	40	53	26	27	34	29	NE.	SE.	150	.....	22
30.32	65	54	65	42	23	45	39	S.	S.	184	.....	23
30.12	85	53	58	48	10	48	46	S.	NE.	101	.07	24
30.16	98	44	47	41	6	44	43	NE.	NW.	109	.03	25
29.93	69	56	67	46	21	50	45	S.	NW.	384	.15	26
29.54	61	38	44	33	11	30	24	NW.	N.	170	.....	27
29.13	85	36	49	24	25	29	26	N.	.....	37	.....	28
29.25	79	38	51	24	27	28	24	.....	S.	50	.....	29
29.27	68	42	50	33	17	38	32	NW.	N.	192	30
30.21	80.6	46.4	54.6	38.3	16.3	41.6	38.2	N.	N.	4,524	1.26	

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and

DECEMBER, 1895.

		Mortality.																												
Day of month.	Color.	Total deaths, less those by violence.	Deaths by violence.			Deaths by ages.				Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Pituitous pulmonals.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous organs.	Diseases of the circulatory organs.	Rheumatism.	Digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.		
			Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.																					
1	W.	6				3	1	1	1								1	2	1	1						1	3	6	8	
2	C.	12				2	1	2	2					1			2	1				3				1	5	12	18	
3	W.	7	1			5	2	1	1							1	1	1								2	1	6	13	
4	W.	8				2	1	4	1					1			1		2	1		1	1			1	1	8	12	
5	C.	4	2			1	1	2	1											1		1	1			1	1	4	11	
6	W.	2				1	1	1	1						2		2		1							1	1	5	8	
7	C.	5				1	1	1	1											1		2				1	1	3	13	
8	W.	8	1	1		3	1	1	1			1				1	2	1		1	1	2	1		1	1	10	17		
9	C.	3				1	1	1	1								1					1					3	6	17	
10	W.	11				4	2	1	1	1		1		1	1		2					3				1	6	11	17	
11	C.	6				2	2	4				1		1			3					3	1				3	11	16	
12	W.	8	1			1	2										1	1	1			3	1				2	7	9	
13	C.	7				1	1								1		2	1	1			1	1			1	2	4	11	
14	W.	4				1	3	1	1					1			1	1	1			1	2	3		1	1	8	15	
15	C.	3				1	1	1	1								1	1	1			1					2	11	14	
16	W.	11				5	3	1	1					1			1	1	1			2	3			1	1	9	17	
17	C.	4				1	1	1	1								3					2					2	7	14	
18	W.	5	1			2	1	1	1			1		2			1	1	1			1					3	7	19	
19	C.	11				4	3	2	1							1	1	1	1			3	1				5	11	19	
20	W.	8				2	2	2	1			1		2			1	2	3			3					2	8	12	
21	C.	4				1	1	1	1								1	1	1			2					3	4	15	
22	W.	9				5	1	1	1					1			1	1	1			2					4	6	15	
23	C.	6				2	2	2	1								1	2	3			1					3	9	16	
24	W.	12				5	2	2	2	1		1		1			3	2	1			1					4	6	19	
25	C.	5				1	1	1	1								1	1	1			1					2	5	16	
26	W.	10	1			1	6	1	1			1					2	2	1			1					1	10	16	
27	C.	6				1	1	1	1					1			1	1	1			3					1	6	7	
28	W.	3	1			2	2	1	1								1	1	1			1					1	4	10	
29	C.	3				1	1	1	1								1	1	1			1					1	3	8	
30	W.	13				5	6	1	5					2			1	2	1			2					1	12	20	
31	C.	7	1			4	5	1	1					1	1		1	2	1			2					1	12	20	
32	W.	11				2	3	3	3					1			3	3	1			1					1	4	11	16
33	C.	15				3	2	1	1								1	1	1			1					1	4	11	16
34	W.	11				5	2	1	1								1	1	1			1					1	5	11	12
35	C.	1															1	1	1			1					1	1	1	10
36	W.	4					4	1	1								1	1	1			1					1	4	6	10
37	C.	6					1	3	1						1			1	1			4					1	2	6	11
38	W.	8					1	3	1								1	1	1								1	2	3	11
39	C.	3					2	2	1								1	1	1			1					1	2	8	17
40	W.	9					3	3	3					2				1	1								1	3	9	17
41	C.	251	7	0	3	77	67	13	7	2	0	10	5	13	1	1	19	24	14	8	3	40	25	0	12	74	261	429		
42	W.	165	2	0	1	24	54	10	3	0	1	4	3	7	0	1	21	20	8	5	1	23	11	0	7	52	168			

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

DECEMBER, 1895.

Meteorological conditions.												
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Maximum.	Minimum.	Range.	Mean.			8 a. m.	8 p. m.			
30.24	80	49	28	21	38	35	31	N.	SE.	83	.....	1
29.72	75	58	44	14	51	42	38	N.	NW.	240	0.16	2
30.08	54	33	27	6	30	25	16	S.	NW.	298	.....	3
30.20	74	35	15	20	25	20	16	NW.	E.	109	.....	4
30.13	67	35	27	8	31	26	20	NW.	NW.	204	T.	5
30.30	57	35	22	13	28	24	15	N.	SW.	190	.....	6
30.05	56	47	27	20	37	34	26	W.	SW.	133	.....	7
30.19	82	47	36	11	42	36	33	SE.	N.	109	.28	8
30.27	84	38	34	4	36	34	36	N.	N.	152	.03	9
30.12	68	28	24	4	26	22	17	N.	N.	240	.....	10
29.92	76	35	21	14	28	26	22	N.	E.	197	T.	11
30.13	77	26	23	3	24	22	18	N.	NE.	217	.11	12
30.22	64	27	13	14	20	15	8	NE.	NW.	270	.....	13
30.20	60	35	14	21	24	19	12	N.	W.	163	.....	14
30.23	71	49	18	31	34	27	22	NW.	W.	88	.....	15
30.59	74	46	32	14	39	29	26	W.	N.	104	.....	16
30.73	79	47	19	28	33	29	26	N.	E.	48	.....	17
30.49	84	54	31	23	42	38	36	N.	NW.	85	.....	18
30.34	81	61	40	21	50	46	44	SE.	S.	122	.....	19
30.34	77	64	52	12	58	50	49	S.	SE.	190	T.	20
30.14	82	61	51	10	56	54	51	SE.	SW.	312	.36	21
30.25	73	54	41	13	48	38	33	E.	S.	152	.....	22
30.12	70	66	39	27	52	44	39	W.	S.	77	.....	23
30.10	84	65	48	17	56	48	46	S.	E.	114	.....	24
30.09	92	59	44	15	52	45	44	S.	NE.	105	.....	25
29.69	72	66	45	21	56	50	50	E.	SW.	317	.30	26
30.13	62	44	34	10	39	32	24	SE.	SW.	273	.....	27
30.16	88	42	29	13	36	32	30	NW.	S.	69	.04	28
30.20	86	39	34	5	36	34	32	.....	S.	82	.....	29
29.77	98	42	35	7	38	38	38	W.	N.	105	.66	30
29.92	55	43	30	13	36	25	20	N.	SW.	353	.44	31
30.16	74.3	46.1	31.5	14.6	38.7	33.9	29.5	N.	SW.	15,201	2.38	

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

JANUARY, 1896.

Day of month.	Color.	Mortality.																										Total deaths.		
		Total deaths, less those by violence.	Deaths by violence.	Homicides.	Suicides.	Deaths by ages.					Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Phtisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.		Total deaths, by color.	
						60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	60 years old and over, less those by violence.																				Under 5 years old, less those by violence.
1	W.	15				4	4											1	2		1		4	2	1	4	3	15	20	
2	W.	8				2	3	1				1																	8	12
3	W.	9					1											1	1										4	12
4	W.	12	2	1			3											3	2	2			1	2	2	1	1	1	13	24
5	W.	12					4	3										3	2	2									1	16
6	W.	9					1	1	1	1	1						1	3	1										4	20
7	W.	11					2	4	2	2	2							2	2	2		1							11	27
8	W.	7	1				3	2							1			3	3			1							6	20
9	W.	9					4	4	1	1								2	4										3	29
10	W.	14					4	3	3									3	3										3	34
11	W.	8	1				4	3			1	1						2	4	4									1	38
12	W.	16					5	3										3	1	1	1								3	44
13	W.	7					2	2										1	3										1	17
14	W.	6	1				2	2										1	1	1									1	16
15	W.	9					2	2										1	1	1									1	17
16	W.	15					5	5										1	3	2		2							3	22
17	W.	12	1				1	1										1	1	1									1	16
18	W.	8					1	1										2	2										2	16
19	W.	6	1				1	1	3										3										1	9
20	W.	9					1	1											1	1									2	9
21	W.	8					1	1										1	1	1									1	8
22	W.	5																	2										3	5
23	W.	2	1				3	1											1	1									3	3
24	W.	6					1	3											2										2	13
25	W.	6					1	1											1	1									1	8
26	W.	8					1	3	1	1									2										3	13
27	W.	6					3	3											2										2	6
28	W.	15					5	1	3										3	1	1								1	16
29	W.	1					1	3											2										1	7
30	W.	7					1	1											3	1	2								1	12
31	W.	5																	3	1	2								1	5
1	W.	14					3	5											1	1									5	18
2	W.	4					1	1											1	1									4	18
3	W.	8					1	1	4	1									1	2									3	18
4	W.	10					2	3	3	2	1								1										1	18
5	W.	7					3	3											1	2									4	16
6	W.	11					3	5											1	3	1								3	11
7	W.	7					3	3											4	1	1								4	16
8	W.	6					3	3											1	4	1								3	14
9	W.	4					3	3											2	2									2	10
10	W.	6					3	1											1	1									1	10
11	W.	4					1	4	2	3									2	1									1	20
12	W.	9					1	2	3	1									2	2									1	10
13	W.	9					1	4	2	1									2	1									1	10
14	W.	7					2	3											1	1									1	15
15	W.	8					1	3											1	1									1	10
16	W.	2																	1	1									1	5
17	W.	4	1				2	2											4	1									5	11
18	W.	11					2	2											4	1									6	22
19	W.	11					2	2											4	1									1	11
20	W.	11					2	2											4	1									1	11
21	W.	11					2	2											4	1									1	11
22	W.	11					2	2											4	1									1	11
23	W.	2																	1	1									1	13
Total and mean.	W.	272	7	0	3	80	69	4	2	1	0	9	1	0	2	8	0	1	29	41	9	10	3	34	22	2	13	58	282	508

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ages; also daily meteorological conditions and variations, etc.—(Continued.)

[Barometer reduced to sea level. T. indicates trace of precipitation.]

JANUARY, 1896.

Meteorological conditions.											
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).						Direction of wind.		Total movement of wind.	Rainfall.
		Maximum.	Minimum.	Range.	Mean.	Mean (wet bulb).	Mean dew-point.	8 a. m.	8 p. m.		
30.18	60	36	29	7	32	27	20	NW.	NW.	201	.....
30.14	58	49	20	29	34	30	22	N.	S.	230	.....
29.96	50	47	26	21	36	30	20	S.	NW.	414	T.
30.44	58	17	11	6	14	9	0	NW.	W.	444	.....
30.48	50	18	9	9	14	9	0	NW.	NW.	308	.....
30.55	72	22	8	14	15	12	7	N.	SE.	122	.....
30.26	66	29	18	11	24	23	16	SE.	SW.	146	T.
30.22	69	35	24	11	30	24	19	NE.	NE.	147	.....
30.00	77	36	25	11	30	27	24	SE.	N.	102	.....
30.12	66	27	29	8	33	27	21	NW.	N.	155	.....
30.25	72	39	24	15	32	24	20	NW.	SW.	85	.....
30.03	61	49	24	25	36	34	25	S.	W.	155	.....
30.53	52	43	30	13	36	29	20	NW.	.....	94	.....
30.39	52	32	27	5	30	24	14	NW.	NW.	266	.....
30.56	60	35	23	12	29	23	16	NW.	NW.	170	.....
30.44	69	41	20	21	30	26	21	NW.	SE.	88	.....
30.20	66	44	26	18	35	30	24	N.	N.	149	.....
30.14	66	50	28	22	39	32	26	NW.	SE.	117	.....
30.12	93	36	33	3	34	34	32	SE.	N.	120	0.29
30.23	80	36	32	4	34	31	29	NE.	E.	135	T.
30.24	84	40	31	9	36	34	31	S.	S.	56	.....
30.30	79	41	30	11	36	34	30	E.	NE.	109	.....
30.10	98	43	33	10	38	38	38	NE.	NE.	402	.80
29.64	92	52	43	9	48	44	44	N.	NW.	189	1.17
30.06	79	53	33	20	43	40	35	S.	NW.	124	T.
30.20	66	46	40	6	43	32	31	NW.	NW.	223	.....
30.23	60	39	32	7	36	28	21	NW.	NW.	288	.....
30.31	74	43	28	15	36	28	24	NW.	NW.	171	.....
30.30	81	53	24	29	38	34	27	.....	SE.	55	.....
30.29	66	59	30	29	44	38	32	S.	NW.	136	.....
30.37	75	44	33	11	38	36	32	NE.	E.	112	.01
30.22	69.4	40.1	26.5	13.6	33.3	28.7	23.2	NW.	NW.	15,513	2.27

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

FEBRUARY, 1896.

Day of month.	Color.	Deaths, less those by violence.		Deaths by violence.		Deaths, by ages.												Mortality.												Total deaths.
		Total deaths, less those by violence.	Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.			
1	W.	10				3	1				1						1	2			1	2		2	1	10	16			
2	C.	13				2	3							1			3	3	1	1	3		3		3	1	12	17		
3	W.	9				3	2										1	1			1				4	9	11			
4	C.	7				1	3										4	1	1						1	2	7	15		
5	W.	7				1	1										3	3	1	1					2	3	12	16		
6	C.	11				1	4				2		1				2	1	1		1				3	4	11	19		
7	W.	4	1			4	2				1						2	3		1	1	1		1	1	8	10	10		
8	C.	8				1	1						1				4	2		1					1	1	8	13		
9	W.	5				1	1										1	1			1				3	3	10	17		
10	C.	9				3	3										1	1			1				1	1	8	15		
11	W.	3				2	2										1	3			2				1	1	11	18		
12	C.	8				2	4				1						3								3	3	9	19		
13	W.	10				2	2										2	2		1	3				1	5	12	27		
14	C.	12				3	2				1						2	1			2				1	1	6	20		
15	W.	1				1	1										3	1			3				1	1	11	27		
16	C.	8				5	2				2						2	1			3				2	8	13	13		
17	W.	7				2	2										1	1			1				2	2	6	15		
18	C.	5				3	3										1	1			2				1	1	7	10		
19	W.	6				2	1				2	1					2	1			2				1	3	6	17		
20	C.	7				1	1										1	1			1				1	1	10	18		
21	W.	1				5	1										2	2			3				2	4	8	20		
22	C.	12				1	1										1	1			1				1	1	12	17		
23	W.	8				3	2										1	4			2				1	3	9	23		
24	C.	9				2	5										2	2			1				1	8	16	17		
25	W.	15				4	4				1	1					3	1			1				1			23	23	
26	C.	6				1	1										1	1			2				2	7	11	17		
27	W.	11				1	4				3						2	2							2	1	4	15	15	
28	C.	5				2	2				1						3	3		2	1				1	1	11	21	21	
29	W.	10				1	6										2	3			1				1	1	13	23	23	
30	C.	8				5	2				1						2	2			1				1	1	8	16	16	
31	W.	8				2	2										2	2			1				1	1	8	16	16	
32	C.	8				2	2				1						2	2			1				1	1	8	16	16	
33	W.	19				3	3										1	1			3				2	3	19	26	26	
34	C.	7				6	5				1	1					2	2			1				2	3	19	26	26	
Total and mean.	W.	271	13	0	0	3	79	03	9	7	0	2	7	1	8	0	30	42	8	4	3	31	23	3	21	89	289	493		
	C.	200	2	1	0	1	37	86	8	3	0	0	0	2	8	0	38	48	9	5	0	21	16	3	7	51	204			

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

FEBRUARY, 1896.

Meteorological conditions.												
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Maximum.	Minimum.	Range.	Mean.			8 a. m.	8 p. m.			
29.89	92	54	38	16	46	45	43	S.	SW.	73	0.22	1
29.91	71	52	41	11	46	42	37	N.	NW.	170	.01	2
29.80	93	41	32	9	36	32	32	NE.	N.	180	.68	3
29.80	94	40	32	8	36	35	34	SE.	NE.	112	.05	4
29.88	96	43	34	9	38	36	36	E.	NE.	137	.01	5
29.04	78	57	35	22	46	46	42	NE.	W.	358	2.29	6
29.78	53	50	38	12	44	34	27	W.	NW.	304	.....	7
29.98	75	41	32	9	38	32	34	N.	NE.	141	.05	8
29.60	74	47	33	14	40	32	27	NW.	NW.	290	.34	9
29.94	52	46	32	14	39	32	22	W.	S.	336	.....	10
29.98	39	41	30	11	36	27	13	NW.	SW.	475	.....	11
30.32	56	45	28	17	36	28	26	N.	E.	184	.....	12
29.82	97	54	35	19	44	45	44	E.	SW.	174	.98	13
30.18	62	45	32	13	38	31	24	NW.	W.	395	T.	14
30.10	60	60	31	29	46	37	30	S.	SW.	201	.....	15
30.14	59	46	20	26	33	30	22	NW.	NW.	310	.02	16
30.50	54	20	8	12	14	9	— 1	N.	N.	266	.....	17
30.14	66	30	9	21	20	16	10	N.	SE.	126	T.	18
29.68	65	43	19	24	31	22	11	S.	NW.	378	.01	19
30.03	62	16	8	8	12	8	— 2	W.	NW.	466	.....	20
30.38	66	26	10	16	18	13	3	NW.	NW.	426	.....	21
30.43	56	42	14	28	28	20	12	SW.	SW.	125	.....	22
30.10	46	60	30	30	45	37	26	S.	W.	84	.....	23
29.98	54	57	42	15	50	40	30	NW.	NW.	246	.....	24
30.10	54	42	26	16	34	26	16	NW.	N.	371	.....	25
29.80	54	49	26	23	38	30	20	S.	NE.	132	.....	26
29.92	73	51	26	25	38	32	26	E.	SE.	132	.....	27
29.82	71	55	30	25	42	40	40	NE.	NE.	116	.33	28
29.54	96	55	46	9	50	46	46	NW.	NW.	204	.32	29
29.95	67.2	45.1	28.2	16.9	36.6	31.2	24.7	NW.	NW.	{6.912	5.31	

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and

MARCH, 1896.

Day of month.	Color.	Mortality.																									
		Total deaths, less those by violence.	Deaths by violence.	Deaths, by ages.					Scarllet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.
				60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	Infants.																			
1	W. C.	14 7		8 12	1 3																					4 7	14 21
2	W. C.	10 5	1	3 4	1 1																					5 5	10 15
3	W. C.	6 5		1 4	2 2																					6 5	6 11
4	W. C.	9 6	1	3 1	1 1																					1 2	10 16
5	W. C.	4 4		1 1	1 1																					3 6	4 16
6	W. C.	12 8		1 4	6 1																					4 12	16 22
7	W. C.	4 8		1 1	1 8																					1 5	14 22
8	W. C.	17 7	1	7 2	1 1																					1 9	17 23
9	W. C.	10 7	1	1 4	2 3																					3 8	4 11
10	W. C.	5 6	1	2 3	1 1																					2 6	6 12
11	W. C.	11 3		4 1	1 2																					5 5	11 14
12	W. C.	6 3		1 4	3 1																					3 4	3 19
13	W. C.	12 19		5 2	6 6																					4 12	19 24
14	W. C.	5 5		1 2	1 3																					1 5	19 24
15	W. C.	9 6	1	2 2	4 1																					3 7	10 15
16	W. C.	6 5		1 5	2 2																					2 7	7 13
17	W. C.	8 5		2 5	1 2																					1 8	9 14
18	W. C.	6 1		1 1	2 1																					2 5	8 15
19	W. C.	13 7		4 3	4 3																					2 7	13 20
20	W. C.	8 8		2 4	1 1																					1 7	7 17
21	W. C.	9 8		1 2	3 1																					2 3	9 17
22	W. C.	8 5		2 2	2 2																					4 8	8 17
23	W. C.	8 5		2 4	1 5																					1 5	5 13
24	W. C.	10 7		4 3	2 2																					2 8	10 13
25	W. C.	4 8		1 4	1 1																					1 4	4 12
26	W. C.	14 8	1	7 5	4 4																					3 8	15 23
27	W. C.	15 9	1	5 6	1 1																					3 8	17 27
28	W. C.	11 14		6 3	1 7																					4 11	10 25
29	W. C.	6 6		1 3	2 2																					2 14	11 19
30	W. C.	10 6		5 2	4 3																					2 7	12 23
31	W. C.	15 7	1	2 4	5 1																					5 10	16 23
	W. C.	9 5		1 3	1 3																					3 10	5 15
Total and mean.	W. C.	281 230	9 5	0 0	2 0	88 33	75 101	9 19	6 4	1 0	1 0	8 2	3 3	0 1	0 29	38 27	7 7	4 14	1 3	40 24	34 17	2 2	14 3	11 9	1 1	292 236	

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ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

MARCH, 1896.

Meteorological conditions.												
Mean barometer actual.	Temperature (exposed bulb).						Direction of wind.			Total movement of wind.	Rainfall.	Day of month.
	Mean relative humidity.	Maximum.	Minimum.	Range.	Mean.	Mean (wet bulb).	Mean dew-point.	s a. m.	s p. m.			
29.61	73	52	38	14	45	39	34	N.	NW.	403	T.	1
29.92	66	41	32	9	36	30	24	NW.	NW.	579	.....	2
30.02	50	41	24	17	32	26	16	NW.	NW.	653	.....	3
30.10	40	40	24	16	32	24	10	NW.	NW.	513	.....	4
30.13	42	48	24	24	36	28	16	NW.	NW.	329	.....	5
30.05	54	50	28	22	39	32	24	NE.	NE.	82	T.	6
29.78	68	62	38	24	50	40	33	.....	NW.	268	.....	7
30.01	57	42	33	9	38	32	24	NW.	NW.	399	.....	8
30.08	57	49	31	18	40	34	26	W.	.....	227	.....	9
29.82	74	49	34	15	42	34	31	NE.	NE.	159	T.	10
29.44	97	37	30	7	34	31	31	NE.	NW.	251	1.05	11
29.84	59	32	20	12	26	19	11	W.	NW.	361	T.	12
30.42	58	33	14	19	24	19	10	N.	NW.	121	.....	13
30.64	54	36	15	21	26	24	14	N.	SW.	101	.....	14
30.26	92	36	27	9	32	32	30	E.	S.	130	.53	15
29.86	96	35	32	3	34	33	33	NE.	NW.	180	1.09	16
30.18	60	40	26	14	33	28	20	NW.	NW.	324	T.	17
30.30	62	49	24	25	36	30	24	.....	SE.	141	.....	18
29.46	88	64	36	28	50	45	43	SE.	NW.	290	1.33	19
29.93	66	43	27	16	35	29	22	NW.	W.	524	.01	20
30.31	60	49	23	26	36	30	22	W.	S.	213	.....	21
30.23	70	60	39	21	50	43	38	S.	NW.	139	.01	22
30.40	79	47	27	20	37	30	26	NE.	N.	254	.09	23
30.57	55	34	18	16	26	22	12	N.	E.	218	.02	24
30.28	78	51	19	32	35	34	30	S.	S.	162	.....	25
29.78	75	66	32	34	49	42	37	S.	NW.	310	.02	26
30.14	52	43	28	15	36	28	20	NW.	N.	270	.....	27
30.24	68	54	24	30	39	35	30	N	SE.	174	.....	28
29.87	88	64	45	19	54	56	55	S.	SW.	141	.93	29
29.91	86	70	54	16	62	57	54	S.	.....	123	.03	30
30.20	64	58	45	13	52	47	41	NE.	S.	119	T.	31
30.06	67.0	47.6	29.4	18.2	38.6	36.0	27.0	NW.	NW.	8,158	5.16	

TABLE X.—Daily mortality, classified by color, different diseases, violence, and

APRIL, 1896.

Day of month.	Color.	Mortality.																											
		Total deaths, less those by violence.	Deaths by violence.		Deaths, by ages.					Scarlet fever.	Croup.	Diphtheria.	Diarrhœal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Phtisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.	
			Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.																				
1.....	W.	8			3	1											2	1								1	4	8	15
	C.	7			1	2											1	1							3	7	8		
2.....	W.	6			4	1											3	1							1	1	6	21	
	C.	14			2	7		1				1					2	3							2	3	15		
3.....	W.	8	1		4												1	1							4	9	18		
	C.	9			2	4											2	2							4	9			
4.....	W.	2			1	1											1	1							4	2	12		
	C.	10			3	4		1									2	1							4	10			
5.....	W.	13			6												1	2							3	7	20		
	C.	7			3	1			1								2	1							1	3	10		
6.....	W.	10			2	3											2	1							2	2	16		
	C.	6			2	2											4	2		1					1	2	6	18	
7.....	W.	8			2	1											2	2							1	3	10		
	C.	9	1		5	2		1									3	3		1					2	2	8	12	
8.....	W.	3	1														1	2							2	2	4		
	C.	3															1	2							2	2	11	19	
9.....	W.	9		2	5	3											1	2							1	4	11		
	C.	8			1	3											1	1							1	4	11		
10.....	W.	11			1	4						1	1				2	2							2	1	16	17	
	C.	6			2	2		1	1								3	2							4	8			
11.....	W.	7	1		1	3											1	1	2						3	2	10	17	
	C.	3			1	3											2	1							1	6	8		
12.....	W.	4			1	1											1	2							3	2	10	14	
	C.	1			1	3											1	1							1	6	8		
13.....	W.	4			1	1											1	1							1	4	8		
	C.	4			1	1											1	1							1	4	8		
14.....	W.	8			4												2	2							1	1	15		
	C.	7			3	3											3	1							1	7	15		
15.....	W.	5			1												1	1							1	1	5	13	
	C.	8			2	1		1								1	2	2							1	5	16		
16.....	W.	14	2		6	1											2	2							1	1	18	23	
	C.	6			5	2		1									1	2							1	5	16		
17.....	W.	17			5	5											4	1							1	5	17	27	
	C.	10			2	2											1	1							2	2	10		
18.....	W.	16			7	6											1	1							1	9	16	20	
	C.	4			2	2											1	1							1	4	4		
19.....	W.	11			1	5	1										2	3							1	7	12	22	
	C.	10				1	5		1								2	3							1	2	10		
20.....	W.	10	1		4	1											2	1							3	1	18		
	C.	7			3	3											1	2							1	2	11		
21.....	W.	11			3	1											1	1							1	3	11	16	
	C.	5			2	1											5	2							2	3	5		
22.....	W.	3			1												1	1							1	3	5	8	
	C.	3			2	1											2	1							1	3	5		
23.....	W.	9	1		2	1											2	1							1	1	10	18	
	C.	8			1	1											1	1							2	8	8		
24.....	W.	4			1	1											1	2							1	1	5	14	
	C.	9			1	1								1			2	2							1	3	5		
25.....	W.	4	1		2												2	1							1	2	5	16	
	C.	11			3												1	1							1	3	11		
26.....	W.	7			1												2	1							1	4	7	11	
	C.	4			3												1	1							1	2	4		
27.....	W.	4															1	2							1	1	5	13	
	C.	9			1	3											1	2							1	3	9		
28.....	W.	4			1												1	2							1	1	2	8	
	C.	3			1	1		1		1							1	1							1	1	3		
29.....	W.	12			4												2	1							1	1	15	19	
	C.	7			3												1	1							1	3	7		
30.....	W.	5			3												1	2							1	1	5	11	
	C.	6			4	1		1									2	2							2	6	11		
Total and mean.	W.	243	8	0	5	86	52	2	1	1	0	1	2	0	1	40	20	4	2	3	35	30	3	17	83	256	479		
	C.	218	4	1	0	30	73	11	6	1	0	0	2	1	1	41	37	13	3	1	19	17	0	11	70	223			

ages: also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

APRIL, 1896.

Meteorological.												
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Mean.	Maximum.	Minimum.	Range.			s a. m.	s p. m.			
29.90	96	48	43	5	46	44	44	NE.	N.	148	0.51	1
29.86	62	52	32	20	42	39	32	NW.	W.	338	.01	2
29.98	54	40	31	9	36	30	20	NW.	NW.	520	.01	3
30.18	48	43	32	11	38	32	20	NW.	NW.	395	.....	4
30.33	48	55	31	24	43	34	22	W.	NW.	210	.....	5
30.11	60	58	38	20	48	40	33	N.	NW.	164	.08	6
30.28	60	43	30	13	36	33	26	.....	NW.	259	T.	7
30.52	58	50	30	20	40	34	26	NW.	S.	187	.....	8
30.45	83	52	28	24	40	37	34	W.	SW.	178	.05	9
30.30	84	45	38	7	42	40	36	S.	NE.	174	.04	10
30.33	85	50	40	10	45	42	41	S.	NE.	114	.06	11
30.30	74	69	37	32	53	48	45	N.	SE.	106	T.	12
30.08	60	87	44	43	66	54	47	E.	S.	163	.....	13
30.01	58	84	63	21	74	62	56	SW.	SW.	231	.....	14
30.14	60	84	60	24	72	62	56	SW.	E.	64	T.	15
30.15	64	88	56	32	72	62	56	SW.	S.	86	.....	16
30.06	50	92	61	31	76	63	55	W.	S.	73	.....	17
30.05	59	93	63	30	78	66	61	.....	E.	64	.01	18
30.06	55	92	69	23	80	65	59	S.	NW.	105	T.	19
30.07	56	85	65	20	75	63	58	NW.	SE.	120	.....	20
29.84	51	84	64	20	74	61	53	N.	NW.	165	T.	21
30.06	41	67	51	16	59	46	33	NW.	N.	342	.....	22
30.24	48	70	42	28	56	48	38	SE.	SE.	120	.....	23
30.04	90	60	50	10	55	55	54	S.	NE.	163	.30	24
30.14	82	62	50	12	56	51	49	NE.	S.	138	T.	25
30.22	81	64	48	16	56	50	48	NE.	E.	138	.....	26
30.34	70	62	46	16	54	50	44	E.	E.	162	.....	27
30.28	76	72	52	20	62	58	54	SE.	S.	156	T.	28
30.13	82	78	54	24	66	58	56	NE.	E.	147	.....	29
30.15	69	65	54	11	60	51	46	E.	S.	216	30
30.16	65.5	66.5	46.7	19.7	56.7	49.3	43.4	NW.	NW.	5,446	1.07	

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and

MAY, 1896.

Day of month.	Color.	Mortality.																											
		Total deaths, less those by violence.	Deaths by violence.		Deaths, by ages.																								
			Accidents and negligence.	Homicides.	Suicides.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	Pneumonia.	Phthisis pulmonalis.	Pneumonia.	Bronchitis.	Congestion of lungs.	Pleurisy.	Diseases of nervous system.	Diseases of the circulatory organs.	Rheumatism.	Diseases of digestive organs.	All other diseases.	Total deaths, by color.	Total deaths.
1.	W.	12				1																	2						9
2.	C.	2				2																	1						11
3.	W.	8				2																							13
4.	C.	8	1			2																	2						18
5.	W.	14				5																							22
6.	C.	9	1			1																							11
7.	W.	5	1	1		3																							9
8.	C.	2				1																							5
9.	W.	3				1																							8
10.	C.	3				2																	2						12
11.	W.	6	1			1																							10
12.	C.	9	1			2																							19
13.	W.	7				2																							13
14.	C.	8				4																							15
15.	W.	7				3																							13
16.	C.	7	1			4																							17
17.	W.	6				1																							10
18.	C.	4	4			1																							13
19.	W.	3	1			2																							17
20.	C.	10				6																							14
21.	W.	4	1			4																							8
22.	C.	3				2																							15
23.	W.	10				3																							9
24.	C.	8				1																							13
25.	W.	1	1			2																							8
26.	C.	5				1																							9
27.	W.	4				3																							12
28.	C.	6				2																							14
29.	W.	9				3																							16
30.	C.	5				2																							10
31.	W.	15				9																							20
Total and mean.	W.	206	11	1	2	64	48	12	11	0	0	0	2	6	2	0	27	9	3	4	0	36	20	3	11	81	220	394	
	C.	172	1	1	0	21	65	11	4	0	0	0	8	2	0	1	31	14	5	3	18	10	2	12	61	174			

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ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T. indicates trace of precipitation.]

MAY, 1896.

Meteorological.													Day of month.
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.		
		Maximum.	Minimum.	Range.	Mean.			8 a. m.	8 p. m.				
30.14	84	56	52	4	54	50	48	E.	NE.	167	T.	1	
30.11	86	66	52	14	59	56	55	NE.	S.	158	0.12	2	
30.04	88	71	59	12	65	62	61	S.	S.	113	.09	3	
30.00	80	78	60	18	69	61	58	NW.	S.	89	.....	4
29.92	77	85	60	25	72	62	59	S.	S.	93	.07	5	
30.15	66	74	54	20	64	65	50	NE.	SE.	191	.....	6
30.38	67	61	50	11	56	88	44	NE.	SE.	126	.....	7
30.31	72	66	42	24	54	52	48	S.	S.	102	T.	8	
30.10	55	91	52	39	72	58	51	SW.	W.	131	.....	9
29.96	48	93	65	28	79	65	56	W.	NW.	233	.....	10
29.91	45	94	64	30	79	66	56	W.	W.	167	.....	11
29.96	76	90	66	24	78	65	62	SW.	NE.	140	T.	12	
30.06	76	80	65	15	72	68	61	NE.	NE.	156	.04	13	
29.98	87	78	62	16	70	66	64	NW.	E.	102	.01	14	
30.06	44	82	66	16	74	60	50	N.	NW.	264	.....	15
30.18	48	81	57	24	69	59	50	SW.	S.	117	.....	16
29.96	62	92	66	26	79	68	64	SW.	W.	169	T.	17	
29.96	76	93	61	32	77	64	60	SW.	NW.	114	.38	18	
29.94	59	87	64	23	76	66	60	NE.	NW.	172	.50	19	
30.15	93	60	56	4	58	56	56	N.	NE.	220	.30	20	
30.15	94	67	54	13	60	60	58	SW.	W.	61	.21	21	
30.08	88	82	62	20	72	66	68	.....	S.	97	T.	22
30.16	87	77	67	10	72	67	66	NE.	SE.	92	.04	23	
30.24	84	70	58	12	64	60	58	SE.	E.	175	.02	24	
30.18	86	69	60	9	64	61	59	SW.	SE.	159	.01	25	
29.92	86	83	64	19	74	66	66	S.	S.	169	.01	26	
30.00	73	83	61	22	72	65	62	S.	W.	81	.....	27
29.82	92	87	58	29	72	68	67	SE.	SE.	148	.46	28	
29.96	50	76	62	14	69	56	48	NW.	NW.	258	.....	29
29.91	60	78	54	24	66	60	54	W.	SE.	99	.....	30
29.82	66	80	64	16	72	63	58	SE.	NW.	143	T.	31	
30.05	72.7	78.4	59.3	19.1	68.8	62.9	57.3	SW.	S.	145.4	2.26		

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TABLE X.—Daily mortality, classified by color, different diseases, violence, and

JUNE, 1896.

Day of month.	Color.	Mortality.																
		Total deaths, less those by violence.	Deaths by violence.		Deaths, by ages.													
			Accidents and negligence.	Homicides.	Suicides.	Judicial execution.	60 years old and over, less those by violence.	Under 5 years old, less those by violence.	Under 8 days old, less those by violence.	1 day old and under, less those by violence.	Scarlet fever.	Croup.	Diphtheria.	Diarrheal diseases.	Typhoid fever.	Typhomalarial fever.	Malarial fevers.	
1	W.	6					2	1										
	C.	4	1					1										
2	W.	4											2	1	1			
	C.	3		1									1	1				
3	W.	4					2											
	C.	5						2										
4	W.	6	1				2											
	C.	5					1									1		
5	W.	4		1				2										
	C.	4					1											
6	W.	8						1										
	C.	6					1	3										
7	W.	7	1				2							1				
	C.	5					4							2				
8	W.	7					1	3										
	C.	6					5							1				
9	W.	6	1				1	2										
	C.	4					1	1										
10	W.	3						1						1				
	C.	4						2										
11	W.	4		1			4											
	C.	11					6	1						2				
12	W.	8	1				2	3						1				
	C.	3																
13	W.	9	1				2	3						1				
	C.	10					2	4										
14	W.	5		1			1							2				
	C.	8					4	1	1									
15	W.	6					2	3						1	1			
	C.	14					3	8						1				
16	W.	5					1	3						1				
	C.	13					9	1										
17	W.	6	2				3	1										
	C.	4					3	2										
18	W.	12					4	6						3	1			
	C.	8					1	3						1				
19	W.	6					1	4										
	C.	11					8	2	2					2				
20	W.	12	1				1	7						6				
	C.	9					2	6						1				
21	W.	13					2	8						2	1			
	C.	14					8	2	2					1				
22	W.	14					1	8						4				
	C.	10	1				2	5						5				
23	W.	7					3	2						1				
	C.	13					3	1						2				
24	W.	9					2	5						5				
	C.	13	1				2	3						1				
25	W.	9					1	7						3	1			
	C.	11					2	7						2				
26	W.	5					1	2						2				
	C.	10	1				6	1						2				
27	W.	10					2	5						2				
	C.	12					6	1						2				
28	W.	10					1	6						1				
	C.	15	1				1	3						1				
29	W.	8					5	6						2				
	C.	6					3	1						1				
30	W.	6					2	5						2				
	C.	8					7	1	1					1				
Total and mean.	W.	230	10	1	3		50	98	10	9				4	50	3	0	
	C.	225	5	0	0	1	22	123	11	4				0	34	3	1	

ages; also daily meteorological conditions and variations, etc.—Continued.

[Barometer reduced to sea level. T indicates trace of precipitation.]

JUNE, 1896.

Meteorological conditions.												
Mean barometer (actual).	Mean relative humidity.	Temperature (exposed bulb).				Mean (wet bulb).	Mean dew-point.	Direction of wind.		Total movement of wind.	Rainfall.	Day of month.
		Maximum.	Minimum.	Range.	Mean.			s a. m.	s p. m.			
30.05	56	75	57	18	66	54	48	N.	N.	152	.....	1
30.19	58	75	53	22	64	56	50	N.	W.	102	.....	2
30.22	68	76	52	24	64	60	56	E.	S.	137	.....	3
30.14	90	68	61	7	64	62	60	SW.	S.	101	0.22	4
30.12	80	77	62	15	70	65	63	S.	S.	74	.....	5
30.09	78	82	62	20	72	67	64	S.	SE.	102	T.	6
29.99	86	86	64	22	75	68	67	E.	SW.	102	.01	7
29.78	87	89	67	22	78	70	69	S.	E.	117	.12	8
29.66	90	82	64	18	73	67	66	S.	NE.	110	.69	9
29.67	78	78	65	13	72	64	61	NW.	N.	202	.17	10
29.81	49	80	56	24	68	56	47	NW.	W.	223	.....	11
29.73	52	83	57	26	70	60	52	W.	S.	139	.....	12
29.72	86	72	61	11	66	62	60	S.	NW.	127	.41	13
29.98	76	71	58	13	64	60	56	N.	N.	181	.18	14
30.25	78	72	60	12	66	59	56	E.	SE.	133	T.	15
30.18	92	77	62	15	70	64	62	S.	SE.	127	.21	16
30.02	90	79	63	16	71	67	66	NE.	SE.	65	.01	17
30.02	88	82	61	21	72	68	66	N.	SW.	67	.....	18
30.04	77	86	65	21	76	71	69	NW.	S.	94	.....	19
30.02	72	92	69	23	80	72	70	W.	S.	79	.....	20
29.96	74	90	72	18	81	71	68	SW.	N.	142	.....	21
29.91	76	86	71	15	78	72	68	W.	S.	110	T.	22
30.08	52	78	68	10	73	62	54	N.	E.	135	T.	23
30.16	87	73	62	11	68	64	64	NE.	E.	179	.01	24
30.24	93	68	61	7	64	63	62	NE.	E.	148	.04	25
30.14	95	86	65	21	76	68	68	S.	SW.	90	.03	26
30.04	68	82	64	18	73	66	66	N.	SW.	115	.....	27
29.75	88	86	71	15	78	72	70	S.	S.	123	.29	28
29.98	57	85	66	19	76	65	58	NW.	NW.	158	.....	29
30.26	44	82	62	20	72	58	48	NE.	SE.	128	30
30.01	75.4	79.9	62.7	17.2	71.3	64.4	61.1	S.	S.	3,762	2.39	

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TABLE XI.—*Showing deaths, arranged according to age, sex, and color, with percentages for twenty years ended June 30, 1896.*

WHITE MALES.

Years.	Total deaths.	5 years and over.		20 years and over.		40 years and over.	
		Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.
1877.....	1,148	725	63.15	633	55.14	432	37.63
1878.....	1,125	683	60.71	568	50.49	380	33.78
1879.....	1,130	689	60.97	562	49.73	384	33.98
1880.....	1,097	711	64.18	641	58.43	459	41.84
1881.....	1,179	791	67.10	709	60.14	509	43.17
1882.....	1,254	854	68.10	751	59.88	541	43.14
1883.....	1,196	820	68.53	709	59.28	533	44.57
1884.....	1,322	885	66.94	764	57.79	572	43.12
1885.....	1,375	957	69.67	841	61.16	601	43.71
1886.....	1,312	949	72.33	841	64.10	610	46.49
1887.....	1,343	949	69.84	845	62.91	596	44.38
1888.....	1,456	978	67.14	875	60.06	651	44.78
1889.....	1,458	969	66.46	873	60	648	44.44
1890.....	1,631	1,155	70.81	1,038	63.64	742	45.49
1891.....	1,697	1,201	70.77	1,092	64.35	830	48.91
1892.....	1,847	1,302	70.50	1,175	63.56	866	46.89
1893.....	2,020	1,442	71.38	1,329	65.79	997	49.35
1894.....	1,815	1,260	69.42	1,132	62.37	854	47.05
1895.....	1,715	1,271	74.11	1,161	67.69	861	50.20
1896.....	1,810	1,270	70.17	1,170	64.64	879	48.56
Total deaths and mean percentages thereto.....	28,930	19,852	68.11	17,709	60.56	12,945	44.03

WHITE FEMALES.

Years.	Total deaths.	5 years and over.		20 years and over.		40 years and over.	
		Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.
1877.....	1,039	621	59.77	522	50.24	339	32.63
1878.....	1,041	653	62.73	541	51.97	354	32.61
1879.....	1,066	647	60.69	535	50.19	334	31.33
1880.....	988	592	59.92	529	53.54	351	35.53
1881.....	1,026	716	69.78	611	59.55	404	39.38
1882.....	1,099	731	66.52	631	57.42	410	37.31
1883.....	1,075	728	67.78	632	58.85	479	40.88
1884.....	1,254	801	63.88	687	54.78	465	37.08
1885.....	1,235	832	67.37	705	57.08	489	39.59
1886.....	1,130	803	71.06	702	62.12	458	40.53
1887.....	1,141	800	70.20	697	61.08	488	42.77
1888.....	1,322	898	67.92	791	59.83	530	40.09
1889.....	1,255	845	67.33	733	58.40	511	40.29
1890.....	1,363	883	67.76	781	59.94	525	43.08
1891.....	1,409	1,011	71.75	897	63.66	607	43.08
1892.....	1,505	1,134	75.10	990	62.07	686	43.01
1893.....	1,657	1,148	69.28	1,016	61.31	734	44.29
1894.....	1,514	1,070	70.67	943	62.28	703	46.43
1895.....	1,399	1,024	73.20	809	64.26	648	46.31
1896.....	1,492	1,065	71.38	951	63.74	706	47.32
Total deaths and mean percentages thereto.....	25,039	17,002	67.50	14,793	58.62	10,181	40.65
Total whites.....	53,969	36,854	67.80	32,502	59.59	23,126	42.04

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TABLE XI.—Showing deaths, arranged according to age, sex, and color, with percentages for twenty years ended June 30, 1896—Continued.

COLORED MALES.

Years.	Total deaths.	5 years and over.		20 years and over.		40 years and over.	
		Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.
1877	988	417	42.20	337	34.11	206	20.85
1878	1,007	394	39.13	311	30.88	197	19.56
1879	1,051	430	40.91	348	33.11	209	19.89
1880	1,025	407	39.71	325	31.71	186	18.15
1881	921	424	46.04	347	37.68	210	22.80
1882	1,062	500	47.08	402	37.85	245	23.07
1883	1,004	504	50.20	397	39.54	253	25.20
1884	1,081	481	44.50	381	35.24	242	22.39
1885	1,210	587	48.51	476	39.34	300	24.70
1886	1,077	574	53.29	458	42.52	297	27.57
1887	1,079	536	49.67	427	39.60	270	25.02
1888	1,049	536	51.09	440	41.94	301	28.69
1889	1,180	583	49.41	475	40.25	289	24.50
1890	1,292	682	52.79	532	41.17	352	27.24
1891	1,295	696	53.75	557	43.01	352	27.18
1892	1,369	740	54.00	600	43.82	382	27.90
1893	1,391	744	53.49	606	43.56	383	27.54
1894	1,252	714	57.81	587	47.28	357	28.40
1895	1,188	690	58.08	528	44.44	350	29.42
1896	1,290	682	52.87	574	44.50	360	27.91
Total deaths and mean percentages thereto.	22,911	11,321	48.98	9,108	39.38	5,750	24.84

COLORED FEMALES.

Years.	Total deaths.	5 years and over.		20 years and over.		40 years and over.	
		Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.	Number of deaths.	Percentage to total deaths.
1877	1,033	518	50.45	396	38.33	221	21.30
1878	1,058	504	47.64	374	35.35	208	19.66
1879	1,062	523	49.25	424	39.92	230	21.66
1880	1,096	537	49.00	434	39.60	237	21.62
1881	1,010	525	51.91	448	44.36	231	22.87
1882	1,156	613	53.03	490	42.39	282	24.30
1883	1,012	540	53.36	422	41.70	243	24.01
1884	1,157	607	52.46	466	40.28	261	22.56
1885	1,178	664	56.37	510	43.29	319	27.80
1886	1,155	652	56.45	516	44.67	297	25.71
1887	1,102	598	54.26	459	41.65	284	25.77
1888	1,203	686	56.60	547	41.10	303	25.00
1889	1,259	666	52.90	509	40.43	293	23.27
1890	1,338	776	57.10	594	44.39	341	25.48
1891	1,319	746	56.55	609	46.17	368	27.89
1892	1,287	737	57.29	590	45.84	357	27.74
1893	1,384	750	54.84	598	43.21	371	26.80
1894	1,358	773	56.92	592	43.50	357	26.28
1895	1,203	815	64.53	649	51.38	412	34.43
1896	1,312	787	59.98	633	48.25	391	29.80
Total deaths and mean percentages thereto.	23,752	13,126	54.54	10,260	42.79	6,006	25.77
Total colored	46,663	24,447	51.76	19,368	41.08	11,756	25.30
Grand total and mean.	100,632	61,301	59.78	51,870	50.33	34,882	33.67

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TABLE XII.—Deaths and average ages in sixteen years, from July 1, 1881, to June 30, 1896, inclusive.

WHITE.

Years.	All ages.			5 years and over.			20 years and over.			40 years and over.						
	Total deaths.	Average.		Total deaths.	Average.		Total deaths.	Average.		Total deaths.	Average.					
		y.	m.		d.	y.		m.	d.		y.	m.	d.	y.	m.	d.
1881.....	2,205	32	0	1	1,507	46	3	0	1,320	51	3	8	913	60	6	26
1882.....	2,353	32	1	6	1,585	46	7	5	1,382	51	7	23	951	62	3	13
1883.....	2,270	32	4	22	1,548	45	9	2	1,341	51	10	20	972	60	10	29
1884.....	2,576	31	1	28	1,686	46	8	13	1,451	52	5	15	1,037	61	1	28
1885.....	2,610	32	3	4	1,789	46	2	17	1,546	51	3	17	1,090	61	3	18
1886.....	2,442	34	6	19	1,752	46	10	22	1,543	51	8	20	1,068	61	10	1
1887.....	2,484	34	1	17	1,740	47	7	15	1,542	52	3	6	1,084	61	11	19
1888.....	2,778	33	2	28	1,876	48	0	28	1,666	52	10	12	1,181	62	5	14
1889.....	2,713	32	8	6	1,814	47	11	2	1,606	52	6	5	1,159	61	5	11
1890.....	2,934	33	8	0	2,038	47	3	9	1,819	51	11	29	1,267	61	10	5
1891.....	3,106	34	7	25	2,212	48	4	11	1,969	52	8	5	1,437	62	2	21
1892.....	3,442	34	6	7	2,436	48	2	16	2,165	52	19	1	1,552	62	4	23
1893.....	3,677	34	1	19	2,590	49	2	9	2,345	52	10	2	1,731	61	9	18
1894.....	3,329	35	9	26	2,330	50	0	7	2,075	51	10	17	1,557	62	6	24
1895.....	3,114	36	9	22	2,295	49	10	16	2,060	53	9	1	1,509	62	7	26
1896.....	3,302	35	7	23	2,335	50	4	2	2,121	54	7	17	1,585	62	1	19
Total and mean ...	45,335	33	8	28	31,533	47	9	29	30,971	52	4	29	20,093	61	10	3

COLORED.

	<i>y. m. d.</i>				<i>y. m. d.</i>				<i>y. m. d.</i>				<i>y. m. d.</i>			
1881.....	1,931	20	11	6	949	41	9	13	795	47	8	10	441	63	1	4
1882.....	2,218	21	5	23	1,113	41	0	3	892	48	5	16	527	61	11	16
1883.....	2,016	21	9	17	1,044	40	8	23	821	48	10	7	496	61	2	27
1884.....	2,238	19	11	13	1,088	40	5	23	847	49	1	3	507	61	2	3
1885.....	2,388	22	7	29	1,249	40	6	18	986	50	0	22	618	62	11	1
1886.....	2,232	22	11	17	1,326	41	4	4	974	47	6	20	594	62	0	14
1887.....	2,181	22	0	7	1,134	41	3	22	886	49	4	16	554	59	6	23
1888.....	2,262	22	11	3	1,222	41	9	22	987	48	8	2	604	60	8	13
1889.....	2,439	21	11	24	1,240	40	11	8	984	47	6	13	582	60	3	22
1890.....	2,630	22	10	6	1,458	40	1	20	1,126	47	3	2	603	59	5	10
1891.....	2,614	22	9	29	1,442	40	6	17	1,166	47	6	1	720	58	11	27
1892.....	2,656	23	4	23	1,477	40	9	2	1,190	48	0	28	739	58	11	6
1893.....	2,775	23	8	18	1,503	41	3	5	1,204	48	4	28	754	60	3	2
1894.....	2,710	22	11	9	1,487	39	9	16	1,179	46	10	16	714	59	5	1
1895.....	2,451	25	8	27	1,505	41	5	3	1,177	47	10	15	771	59	7	12
1896.....	2,602	24	4	21	1,469	41	11	1	1,207	47	11	11	751	59	8	7
Total and mean ...	38,343	22	1	23	20,606	40	11	24	16,421	48	3	5	10,065	60	9	8
Aggregate	83,678	27	10	25	52,139	44	4	17	47,392	50	4	4	30,158	61	3	20

TABLE XIII.—Deaths under 1 month of age from convulsions and trismus nascentium, by age and months, for year ended June 30, 1896.

BY AGE.

	Convulsions.					Trismus nascentium.				
	White.		Colored.		Total.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	
Under 1 day.....		1	1		2				1	1
1 day to 2 days.....		1			1		1			1
2 days to 3 days.....	1				1	2				2
3 days to 4 days.....			3	1	4	1				1
4 days to 5 days.....			3		3	1				1
5 days to 6 days.....			8	1	9	1	1			2
6 days to 7 days.....		1	3	4	8			2	1	3
7 days to 8 days.....		1	4	2	7				1	1
8 days to 9 days.....	3	1		2	6					2
9 days to 10 days.....		1	2	1	4				1	1
10 days to 11 days.....			1	1	2			1		1
11 days to 12 days.....	2		1		3	2				2
12 days to 13 days.....		1			1					1
13 days to 14 days.....				1	1					1
2 weeks to 3 weeks.....			2	1	3					3
3 weeks to 4 weeks.....	2	1	3	1	7					7
Total.....	8	8	32	15	63	8	2	3	6	19

BY MONTHS.

July.....			4		4	1	1	1		3
August.....	1		6	2	9	1				1
September.....			2	1	3		1		1	2
October.....		2	3	2	7	2			1	3
November.....	2		1	2	5	1			1	2
December.....	4	1	1	2	8		1			1
January.....		1	3	1	5	1		1		2
February.....	1		2	1	4					
March.....		1	5	1	7	1			1	2
April.....		2		1	3	1				1
May.....		1	3	2	6				1	1
June.....			2		2			1		1
Total.....	8	8	32	15	63	8	2	3	6	19

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TABLE XIV.—STILLBIRTHS.—*Cause, legitimacy, period of utero-gestation, and by whom reported, for the year ended June 30, 1896.*

	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Legitimacy:					
Legitimate.....	84	69	96	76	325
Illegitimate.....	20	8	88	79	195
Total.....	104	77	184	155	520
Period of utero-gestation:					
Four months and under.....	8	5	28	19	60
Fifth month.....	13	7	8	8	36
Sixth month.....	3	8	20	16	47
Seventh month.....	22	12	37	29	100
Eighth month.....	13	16	26	29	84
Ninth month.....	40	22	60	52	174
Tenth month.....	1	1	1	.....	3
Not stated.....	4	6	4	2	16
Total.....	104	77	184	155	520
By whom reported:					
Physicians.....	88	68	139	106	401
Coroner.....	16	9	45	49	119
Total.....	104	77	184	155	520
Causes:					
Abortive habit.....	.....	.....	2	.....	2
Anacephalus.....	1	.....	.....	.....	1
Asphyxia.....	1	1	1	.....	3
Cerebral congestion.....	1	.....	.....	1	2
Cords:					
Pressure on.....	4	1	2	2	9
Prolapsus.....	8	.....	.....	3	11
Strangulated.....	.....	1	1	.....	2
Criminal abortion.....	.....	.....	1	.....	1
Developmental, abnormal.....	1	.....	.....	1	2
Difficult and prolonged labor.....	2	8	8	2	20
Fall of mother.....	3	1	10	11	25
Fright of mother.....	2	.....	2	.....	5
Fatty degeneration of placenta.....	.....	.....	.....	2	2
Hydramnion.....	2	.....	.....	.....	2
Ill health of mother.....	6	3	3	2	14
Injury to mother.....	1	.....	11	1	13
Instrumental delivery.....	.....	1	1	.....	2
Malformation of pelvis.....	1	.....	.....	.....	1
Malformation of fetus.....	1	.....	.....	.....	1
Maceration in utero.....	.....	6	1	.....	7
Nonviable (prematurity of fetus).....	3	.....	.....	1	4
Overexertion of mother.....	3	1	1	11	16
Placental hemorrhage.....	.....	.....	.....	1	1
Placenta previa.....	3	3	2	2	10
Presentation:					
Breech.....	.....	1	2	.....	3
Shoulder.....	2	.....	.....	.....	2
Premature delivery.....	.....	2	6	2	10
Puerperal eclampsia (mother).....	.....	1	.....	.....	1
Rupture of amnion.....	1	1	.....	.....	2
Syphilis.....	.....	2	5	3	10
Tuberculosis congenital.....	.....	.....	.....	1	1
Uremia (mother).....	.....	.....	2	.....	2
Umbilical hemorrhage.....	.....	.....	.....	1	1
Unknown and not stated.....	59	44	122	107	332
Total.....	104	77	184	155	520

TABLE XV.—BIRTHS REPORTED.—*Statement, by months and quarters, for the year ended June 30, 1896.*

Months and quarters.	Total.	White.		Colored.		Twins.		Illegiti- mate.		Attended by phy- sicians.		Attended by mid- wives.	
		Male.	Female.	Male.	Female.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
1895.													
July	384	124	104	73	83	4	8	11	44	132	52	96	104
August	416	138	108	95	75	8	4	7	54	140	71	106	99
September	409	147	102	74	86	4	2	9	42	149	59	100	101
Total first quarter.....	1,209	409	314	242	244	16	14	27	140	421	182	302	304
October	417	132	122	83	80	4	2	8	31	109	55	145	108
November.....	405	123	103	90	89	4	4	8	37	133	61	93	118
December	406	125	115	87	79	4	2	9	39	163	51	77	115
Total second quarter.....	1,228	380	340	260	248	12	8	25	107	405	167	315	341
1896.													
January.....	438	132	129	85	92	.....	6	5	51	151	74	110	103
February	336	92	96	68	80	2	2	5	34	111	63	77	85
March.....	404	122	118	69	95	4	6	5	41	145	65	95	99
Total third quarter.....	1,178	346	343	222	267	6	14	15	126	407	202	282	287
April.....	344	100	108	67	69	12	2	10	42	133	55	75	81
May.....	332	108	93	69	62	6	4	12	55	127	44	74	87
June.....	415	133	112	75	95	6	2	11	47	157	61	88	109
Total fourth quarter.....	1,091	341	313	211	226	24	8	33	144	417	160	237	277
Total by sex and color.....	4,706	1,476	1,310	935	985	58	44	100	517	1,650	711	1,136	1,209
Total by color.....	2,786		1,920		
Total for the year.....	4,706				102		617		2,361		2,345	

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TABLE XVI.—BIRTHS.—*Number of births (reported) in different hospitals during the year ended June 30, 1896.*

Month.	Color.	Sex.	Columbia Hospital.	Freedmen's Hos- pital.	Washington Asy- lum Hospital.	St. Ann's Infant Orphan Asylum.	Garfield Memorial Hospital.	Nation- opathic Hospital.	Sibley Memorial Hospital.
1895.									
July	White	Male	3		1	1	1		
		Female	7						
	Colored	Male	5	6					
		Female	3	6			1		
August	White	Male	4	1				1	1
		Female	5						
	Colored	Male	6	12					
		Female	13	5				1	
September	White	Male	2	3			2	1	
		Female	1		1				
	Colored	Male	6	6	1		1	1	
		Female	10	3	1		1	1	
October	White	Male	2			1			
		Female	4				1		1
	Colored	Male	7	5				2	
		Female	7	6	1		1		
November	White	Male	2				1	1	
		Female	2					1	1
	Colored	Male	4	5	2			1	
		Female	10	9					
December	White	Male	5			1	3		
		Female	4		1				
	Colored	Male	10	2	1				
		Female	8	4	1				
1896.									
January	White	Male	6		1				2
		Female	4						
	Colored	Male	6	8					3
		Female	10	4	1				
February	White	Male	6		1				1
		Female	9						
	Colored	Male	9	6					1
		Female	8	7					1
March	White	Male	2					1	
		Female	3					2	
	Colored	Male	4	9	1				
		Female	11	8				1	
April	White	Male	3				2		
		Female	3		1				
	Colored	Male	5	10					
		Female	8	12					2
May	White	Male	3						
		Female	5						
	Colored	Male	5	10					
		Female	5	10					
June	White	Male	4		1		4		
		Female	5		3		4		
	Colored	Male	7	6	1		4		
		Female	1	11	3		4	1	

RECAPITULATION.

	Total.	White.	Colored.	Males.	Females.
Columbia Hospital	249	81	168	116	133
Freedmen's Hospital	174	4	170	89	85
Washington Asylum Hospital	23	9	14	11	12
St. Ann's Infant Orphan Asylum	3	3		3	
Garfield Memorial Hospital	34	21	13	20	14
National Homeopathic Hospital	23	8	15	14	9
Sibley Memorial Hospital	1	1			1
Total	507	127	380	253	254

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TABLE XVII.—MARRIAGES (REPORTED).—*Number of brides and grooms, year ended June 30, 1896.*

Number of marriages of grooms.	Number of marriages of brides.				
	First marriage.	Second marriage.	Third marriage.	Fourth marriage.	Total.
White:					
First marriage.....	1,214	81			1,295
Second marriage.....	131	43	3	1	178
Third marriage.....	6	9			15
Fourth marriage.....					
Total.....	1,351	133	3	1	1,488
Colored:					
First marriage.....	593	50	2		645
Second marriage.....	60	32	2		94
Third marriage.....	5	3	1		9
Fifth marriage.....			1		1
Total.....	658	85	6		749
Grand total.....	2,009	218	9	1	2,237

TABLE XVIII.—MARRIAGES (REPORTED).—*Nationality of brides and grooms of white race, year ended June 30, 1896.*

Birthplaces of grooms.	Birthplaces of brides.									
	United States.	Germany.	England.	Scotland.	Ireland.	Russia.	Italy.	Switzerland.	France.	Other countries.
United States.....	1,299	9	5	2	12	1				1
Germany.....	31	24			3		1			1
England.....	14		4		1					2
Scotland.....	12		2	3						
Ireland.....	19				17					
Russia.....	3					5				
Italy.....	2						1			
Switzerland.....	1				1			1		
France.....	3								2	
Other countries.....	5									1
Total.....	1,389	33	11	5	34	6	2	1	2	5

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TABLE XIX.—MARRIAGES (REPORTED).—*Ages of brides and grooms of white race for year ended June 30, 1896.*

Ages of grooms.	Ages of brides.								Total.
	Under 20 years.	20 to 25 years.	25 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 to 80 years.	
Under 20 years.....	10	1	.....	.....	.....	.....	.....	.....	11
20 to 25 years.....	189	280	41	13	1	.....	.....	.....	524
25 to 30 years.....	70	250	122	16	.....	.....	.....	.....	458
30 to 40 years.....	27	114	104	83	5	1	.....	.....	344
40 to 50 years.....	2	18	18	46	15	2	1	.....	102
50 to 60 years.....	1	4	5	18	15	3	.....	.....	46
60 to 70 years.....	.....	.....	2	2	1	3	1	.....	9
70 to 80 years.....	.....	1	.....	.....	2	.....	.....	.....	3
80 to 90 years.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
90 to 100 years.....	.....	1	.....	.....	.....	.....	.....	.....	1
Total.....	299	669	292	178	39	9	2	.....	1,488

TABLE XX.—MARRIAGES (REPORTED).—*Ages of brides and grooms of colored race for year ended June 30, 1896.*

Ages of grooms.	Ages of brides.								Total.
	Under 20 years.	20 to 25 years.	25 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 to 80 years.	
Under 20 years.....	9	1	.....	.....	.....	.....	.....	.....	10
20 to 25 years.....	116	173	19	5	1	.....	.....	.....	314
25 to 30 years.....	26	118	45	13	3	.....	.....	.....	205
30 to 40 years.....	9	41	54	27	4	.....	.....	.....	135
40 to 50 years.....	.....	8	11	30	17	1	.....	.....	67
50 to 60 years.....	.....	1	1	3	8	1	.....	.....	14
60 to 70 years.....	.....	.....	.....	1	1	1	.....	.....	3
70 to 80 years.....	.....	1	.....	.....	.....	.....	.....	.....	1
80 to 90 years.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	160	343	130	79	34	3	.....	.....	749

TABLE XXI.—Deaths and death rates for the last twenty-one fiscal years.

Year.	July.			August.			September.								
	White.	Colored.	Annual death rate for total population.	White.	Colored.	Annual death rate for total population.	White.	Colored.	Annual death rate for total population.						
	Deaths.	Annual death rate.		Deaths.	Annual death rate.		Deaths.	Annual death rate.							
1875.....	223	25.46	203	54.63	32.77	227	25.81	218	52.12	34.01	162	18.68	194	47.61	27.93
1876.....	298	32.78	269	57.62	42.24	209	27.88	188	43.39	29.44	172	19.34	177	41.74	26.57
1877.....	224	24.07	252	46.15	34.59	206	22.25	208	46.42	30.11	164	17.97	154	34.95	23.38
1878.....	222	23.12	251	50.00	33.14	201	20.94	224	47.93	29.77	156	16.66	147	32.10	21.73
1879.....	250	25.49	242	45.47	33.40	182	18.47	179	36.33	24.56	154	16.04	171	35.92	22.62
1880.....	192	19.15	179	49.08	24.53	154	15.23	171	33.55	21.37	197	19.99	168	33.94	24.66
1881.....	236	22.77	245	29.44	30.77	208	20.07	226	42.90	27.76	201	19.84	202	39.12	26.35
1882.....	230	21.70	214	36.01	27.63	165	15.54	176	32.65	21.17	141	13.57	163	30.36	18.23
1883.....	303	28.15	210	30.88	31.39	198	18.41	201	36.02	24.57	168	15.76	168	30.10	20.68
1884.....	223	20.44	202	36.19	25.50	245	22.40	199	34.46	26.64	236	21.67	190	32.90	25.56
1885.....	323	28.50	272	47.30	34.82	210	18.53	183	32.69	22.13	194	17.12	169	29.39	21.25
1886.....	218	18.64	222	38.06	25.14	220	18.86	308	34.80	21.17	247	21.17	192	32.91	25.09
1887.....	310	28.13	235	37.60	29.07	224	17.92	188	30.08	21.98	233	18.64	200	32.00	23.10
1888.....	272	19.20	243	36.45	24.75	264	18.63	279	41.85	26.06	214	15.10	210	31.50	20.35
1889.....	277	19.25	265	38.25	25.33	274	19.34	232	34.80	24.28	210	14.82	202	30.30	19.77
1890.....	252	17.79	237	35.55	23.47	220	15.53	203	30.42	20.30	248	17.51	195	29.25	21.26
1891.....	290	19.88	260	36.70	25.38	281	19.27	227	32.05	23.45	249	17.66	228	32.19	22.02
1892.....	472	29.09	363	48.40	35.16	307	18.90	222	29.60	22.32	296	18.22	230	30.66	22.14
1893.....	289	18.00	320	32.66	25.64	279	17.17	233	31.07	21.56	252	15.51	218	29.07	19.80
1894.....	302	19.75	283	37.90	25.95	235	15.36	190	26.21	18.51	273	17.80	180	24.82	20.09
1895.....	303	18.94	268	36.22	24.40	297	18.56	259	35.00	23.76	242	15.13	217	29.32	19.62
Total.....	5,706	5,319	4,806	4,414	4,409	3,875	3,875	22.49	22.49	22.49	22.49	22.49	22.49	22.49	22.49
Mean.....	271.1	22.87	253.2	41.46	29.29	228.9	19.34	210.2	36.40	24.66	209.4	17.50	184.5	32.86	22.49

Year.	October.			November.			December.								
	White.	Colored.	Annual death rate for total population.	White.	Colored.	Annual death rate for total population.	White.	Colored.	Annual death rate for total population.						
	Deaths.	Annual death rate.		Deaths.	Annual death rate.		Deaths.	Annual death rate.							
1875.....	147	16.95	170	41.72	24.87	143	16.49	142	34.85	22.36	147	16.95	146	35.83	22.99
1876.....	161	18.44	167	39.40	25.20	135	15.19	119	28.08	19.34	165	18.55	133	31.38	22.69
1877.....	181	19.83	152	34.59	24.61	155	16.99	129	29.28	20.99	157	17.20	145	32.91	22.32
1878.....	185	19.76	146	31.88	23.74	155	16.56	141	30.79	21.23	169	18.05	152	33.19	23.02
1879.....	129	13.43	127	28.68	17.82	147	15.31	130	27.31	19.28	162	16.87	151	31.72	24.79
1880.....	188	19.08	176	35.55	24.59	162	16.44	134	27.07	20.00	211	21.41	129	26.65	22.97
1881.....	234	23.10	179	34.67	27.00	211	20.83	169	32.73	23.76	173	17.08	145	28.08	20.79
1882.....	180	17.32	176	32.78	22.50	162	15.59	154	28.69	20.05	183	17.61	137	25.32	20.20
1883.....	161	14.16	133	23.83	17.48	182	17.07	175	31.34	21.98	254	23.82	213	37.84	28.69
1884.....	193	17.72	175	30.30	22.08	204	18.73	148	25.63	21.12	188	17.26	177	30.65	21.90
1885.....	159	14.03	166	28.87	19.02	158	14.68	169	29.39	19.14	195	17.21	161	28.00	20.35
1886.....	221	18.94	188	32.23	23.37	194	16.63	166	28.40	20.57	192	16.43	154	26.34	19.77
1887.....	217	17.36	141	22.56	18.76	175	14.00	168	26.88	18.29	212	17.96	149	23.84	19.25
1888.....	227	16.02	201	30.15	20.54	189	13.34	148	22.20	16.17	208	14.68	142	21.30	17.98
1889.....	240	16.94	164	24.60	19.39	194	13.69	173	25.95	17.61	215	15.17	207	31.05	20.25
1890.....	240	16.94	187	28.05	20.49	216	15.25	164	24.60	18.27	249	17.58	202	30.30	21.64
1891.....	296	20.30	199	28.10	22.84	265	18.17	184	26.00	20.70	301	20.64	216	30.50	23.86
1892.....	283	17.38	224	29.87	21.34	242	15.00	182	24.27	21.36	278	17.10	215	28.66	20.76
1893.....	278	17.11	184	24.53	19.45	230	14.15	178	23.73	17.18	335	20.64	185	24.06	21.90
1894.....	246	16.04	236	32.55	21.38	231	15.06	178	24.55	18.14	260	17.00	196	27.04	20.23
1895.....	357	22.41	206	27.84	24.05	259	16.19	190	25.79	19.19	261	16.31	168	22.70	18.33
Total.....	4,516	3,697	4,009	3,340	4,009	3,340	3,340	21.65	21.65	21.65	21.65	21.65	21.65	21.65	21.65
Mean.....	215.0	17.77	176.0	30.67	22.07	190.9	15.97	159.0	27.50	19.84	214.5	17.88	167.8	28.95	21.65

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TABLE XXI.—Deaths and death rates for the last twenty-one fiscal years—Continued.

Year.	January.					February.					March.*				
	White.		Colored.		Annual death rate for total population.	White.		Colored.		Annual death rate for total population.	White.		Colored.		Annual death rate for total population.
	Deaths.	Annual death rate.	Deaths.	Annual death rate.		Deaths.	Annual death rate.	Deaths.	Annual death rate.		Deaths.	Annual death rate.	Deaths.	Annual death rate.	
1876	160	17.90	137	32.32	22.61	148	17.48	162	40.17	24.58	192	21.58	173	40.82	27.79
1877	182	19.94	147	33.36	24.31	172	20.47	175	43.14	27.86	199	21.81	168	36.24	27.12
1878	173	19.01	165	36.03	24.60	158	18.34	128	39.35	22.28	198	21.15	148	32.31	21.82
1879	212	22.97	162	34.03	26.04	161	18.21	174	39.70	25.33	180	18.74	197	41.38	26.24
1880	168	17.65	156	31.51	21.89	193	20.43	181	38.45	20.57	155	15.73	198	40.00	23.65
1881	202	19.98	138	26.81	22.29	176	18.91	186	39.25	25.73	187	18.50	185	35.95	24.39
1882	168	16.20	165	30.84	21.18	171	17.91	196	39.79	25.36	218	21.02	170	31.77	21.68
1883	182	17.29	158	28.87	21.25	170	17.54	158	31.59	22.27	236	22.42	196	35.81	27.00
1884	252	23.14	201	34.81	27.18	202	19.51	200	36.42	25.37	233	21.39	181	31.34	21.34
1885	196	18.00	182	31.52	22.68	232	23.13	213	40.06	29.07	253	23.23	214	37.05	28.02
1886	225	19.85	153	26.61	22.13	196	18.79	203	38.35	25.37	246	21.71	192	33.39	25.64
1887	210	16.80	159	25.44	19.68	165	13.20	145	23.20	20.42	213	17.04	170	27.20	20.42
1888	221	15.80	187	28.65	19.58	251	17.72	182	27.30	20.09	292	20.60	236	35.40	25.34
1889	222	15.67	208	31.20	20.64	206	14.54	177	25.30	18.38	260	18.35	210	31.50	22.56
1890	311	22.00	287	43.00	28.75	210	14.82	184	27.60	18.91	260	18.35	225	33.75	23.28
1891	220	15.08	194	27.39	19.10	235	16.11	179	25.27	23.72	306	20.37	286	40.40	27.32
1892	378	25.92	265	37.40	30.14	267	18.31	237	33.44	20.68	283	19.37	208	29.26	22.66
1893	301	18.71	231	30.80	22.56	245	15.08	216	28.80	19.44	353	21.72	238	31.62	24.84
1894	281	17.30	190	25.33	19.83	237	14.60	205	27.33	18.61	290	18.99	224	32.53	22.48
1895	270	17.60	178	24.55	19.87	275	18.00	230	27.60	21.07	291	19.00	224	30.89	22.84
1896	282	17.02	226	30.54	21.71	289	18.06	247	27.57	21.07	292	13.09	236	31.89	22.56
Total.	4,821		3,889		4,359		3,905		5,137		4,299				
Mean.	224.8	18.79	185.2	31.00	22.76	207.5	17.67	186.0	33.32	22.67	244.6	19.27	204.7	34.32	24.68

Year.	April.					May.					June.				
	White.		Colored.		Annual death rate for total population.	White.		Colored.		Annual death rate for total population.	White.		Colored.		Annual death rate for total population.
	Deaths.	Annual death rate.	Deaths.	Annual death rate.		Deaths.	Annual death rate.	Deaths.	Annual death rate.		Deaths.	Annual death rate.	Deaths.	Annual death rate.	
1876	143	16.08	153	36.12	22.54	141	15.85	138	32.57	21.24	253	28.44	238	56.15	37.39
1877	148	16.22	145	32.91	21.65	156	17.10	132	29.96	21.28	187	20.49	201	45.02	28.67
1878	145	15.49	174	37.99	22.70	190	20.30	184	40.17	26.83	210	22.43	226	49.34	31.27
1879	176	18.33	158	33.19	23.25	148	15.41	148	31.09	20.61	231	24.05	213	44.74	30.91
1880	160	16.24	165	33.33	21.95	165	16.75	183	36.97	23.51	226	22.33	238	48.08	30.94
1881	191	18.90	194	37.69	25.24	175	17.31	121	23.51	19.40	170	16.82	150	29.15	20.98
1882	178	17.16	160	29.90	21.50	155	14.95	171	32.42	19.72	200	19.29	190	35.51	24.81
1883	219	20.81	162	29.60	23.81	203	19.29	153	27.75	22.25	199	18.91	169	36.19	26.58
1884	225	21.42	175	30.30	24.00	177	16.25	172	29.78	20.94	234	21.48	203	45.19	30.54
1885	210	19.28	220	38.10	25.80	181	16.62	207	35.84	23.28	248	22.77	195	33.91	22.71
1886	184	16.32	194	33.74	22.13	158	13.94	170	29.69	19.26	193	17.63	237	37.92	26.61
1887	182	14.56	173	27.08	18.93	159	12.72	172	27.52	17.65	262	20.98	247	36.28	22.32
1888	211	14.90	196	29.40	19.53	185	13.06	162	24.30	16.60	247	17.40	218	32.70	22.32
1889	213	15.03	189	28.35	19.29	182	12.84	164	24.60	16.09	256	18.07	228	34.20	23.23
1890	198	14.00	195	29.35	18.86	228	19.75	217	32.55	21.84	307	21.67	289	43.35	28.00
1891	387	26.54	314	43.76	32.17	227	15.54	230	32.47	21.10	306	20.98	247	34.87	25.52
1892	244	14.44	202	28.52	20.58	361	17.90	173	24.42	20.03	327	22.42	257	36.28	26.03
1893	282	17.33	200	26.66	20.40	259	15.94	214	28.53	19.92	356	21.91	340	22.00	24.96
1894	256	15.75	218	29.07	19.96	229	14.10	222	29.60	19.00	373	22.95	313	31.73	28.90
1895	275	18.00	210	28.99	21.52	229	14.93	178	24.55	18.05	227	14.80	198	31.31	18.87
1896	256	16.00	223	30.14	20.47	220	13.75	174	23.51	16.84	244	15.25	231	31.22	20.03
Total.	4,483		4,016		4,038		3,785		5,250		4,748				
Mean.	213.4	17.28	191.2	32.13	22.20	192.3	15.92	180.2	29.61	20.76	250.0	20.50	226.1	38.11	26.93

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TABLE XXII.—Deaths of children under 1 year of age, by months, sex, and color, during twenty-one years, from July 1, 1875, to June 30, 1896.

Year.	July.					August.					September.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
1876.....	58	57	50	55	220	37	43	32	37	149	25	17	34	36	112
1877.....	35	47	48	51	181	27	39	30	28	124	15	16	16	10	57
1878.....	21	27	29	31	108	37	28	43	41	149	14	13	26	27	80
1879.....	34	31	44	57	166	23	31	46	42	142	14	23	22	19	78
1880.....	57	54	66	43	220	27	27	48	27	129	22	14	26	24	86
1881.....	38	36	36	47	157	22	16	27	36	101	12	15	38	29	94
1882.....	47	46	65	62	220	38	39	35	45	148	32	28	29	31	120
1883.....	63	31	59	49	202	21	13	24	26	84	16	13	29	19	77
1884.....	46	68	56	46	216	28	22	42	38	130	14	27	24	25	90
1885.....	32	30	46	38	146	38	47	44	43	172	35	34	39	27	135
1886.....	49	57	59	56	221	24	25	36	35	120	26	16	21	28	91
1887.....	35	36	50	49	170	41	24	44	39	148	23	27	45	18	113
1888.....	63	54	44	58	219	35	27	31	40	133	27	27	29	36	119
1889.....	52	56	65	54	227	54	29	59	68	210	39	23	35	33	130
1890.....	43	44	47	47	181	41	42	45	45	173	23	21	28	28	100
1891.....	55	43	51	44	193	31	31	42	34	138	36	31	42	32	141
1892.....	54	47	57	58	216	37	30	41	36	144	28	27	34	32	121
1893.....	78	83	82	81	324	35	43	39	52	169	33	28	36	29	136
1894.....	55	53	84	75	267	42	44	43	45	174	42	18	35	35	130
1895.....	48	52	52	55	207	24	16	35	32	117	27	33	33	28	121
1896.....	55	64	81	55	255	56	35	57	35	183	38	26	33	33	130
Total.....	1,018	1,016	1,171	1,111	4,316	728	642	843	824	3,037	541	477	654	589	2,261
Total by color..	2,034		2,282		.....	1,370		1,667		.....	1,018		1,243		.....
Total males.....	2,189				.....	1,571				.....	1,195				.....
Total females..	2,127				.....	1,466				.....	1,066				.....

Year.	October.					November.					December.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
1876.....	5	5	14	13	39	4	7	7	14	32	8	3	20	10	41
1877.....	14	9	30	25	78	12	6	16	19	53	11	10	24	27	72
1878.....	14	15	22	17	68	15	10	18	22	65	9	6	25	24	64
1879.....	11	14	25	18	68	13	5	32	18	68	19	10	24	16	69
1880.....	12	4	25	22	63	16	9	19	21	65	14	11	27	21	73
1881.....	20	8	28	24	80	15	5	19	23	62	16	9	20	27	72
1882.....	22	17	32	14	85	17	16	30	20	83	13	13	20	20	66
1883.....	24	23	24	26	97	11	12	25	19	67	9	14	23	17	63
1884.....	16	18	19	12	58	13	14	20	19	66	20	9	24	33	86
1885.....	15	20	30	21	86	19	14	21	19	73	22	11	25	21	79
1886.....	13	8	19	21	61	14	15	23	20	72	13	10	20	16	59
1887.....	27	23	35	26	111	13	11	25	22	71	23	7	21	14	65
1888.....	25	8	28	24	85	11	11	17	21	60	24	13	21	22	80
1889.....	17	26	27	30	100	23	15	13	23	74	12	23	32	27	93
1890.....	21	17	22	17	77	29	15	22	11	68	13	11	24	27	75
1891.....	23	16	21	26	86	18	19	23	23	78	27	15	22	28	92
1892.....	26	28	33	28	115	17	12	31	12	72	33	18	30	30	111
1893.....	33	18	40	27	117	20	14	26	22	82	25	15	29	27	96
1894.....	30	22	27	10	89	20	17	27	24	88	25	19	23	14	81
1895.....	24	20	29	31	104	17	15	24	16	72	22	14	23	17	76
1896.....	34	21	41	27	123	20	17	20	31	88	26	20	19	20	85
Total.....	427	333	571	459	1,790	328	258	454	419	1,459	384	260	496	458	1,598
Total by color..	760		1,030		586		873		644		954	
Total males.....	998				782				880			
Total females..	792				677				718			

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TABLE XXII.—Deaths of children under 1 year of age, by months, sex, and color, during twenty-one years, from July 1, 1875, to June 30, 1896—Continued.

Year.	January.					February.					March.				
	White.		Colored.		Total	White.		Colored.		Total	White.		Colored.		Total
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
1876.....	6	8	15	13	42	12	6	17	10	55	11	10	25	12	58
1877.....	20	18	24	18	80	19	18	28	32	97	25	17	24	19	95
1878.....	13	12	30	24	79	18	7	20	12	57	23	16	22	15	76
1879.....	22	10	29	24	85	13	12	23	28	76	27	15	33	23	98
1880.....	18	19	16	20	71	21	22	26	22	91	13	13	35	26	87
1881.....	11	18	15	20	64	20	12	19	34	85	14	15	25	26	80
1882.....	7	11	25	21	64	11	7	23	32	73	16	14	36	24	90
1883.....	22	7	23	29	81	15	3	26	23	67	9	19	26	21	75
1884.....	18	16	31	29	94	19	9	18	25	71	17	11	24	25	77
1885.....	19	10	27	18	74	21	11	30	31	93	25	15	30	20	90
1886.....	24	17	16	29	86	25	5	29	17	86	13	19	25	21	78
1887.....	16	15	24	20	75	9	4	21	14	48	24	15	26	24	89
1888.....	17	12	33	28	90	18	11	29	24	82	20	20	42	25	116
1889.....	27	12	34	29	102	13	15	29	22	79	36	30	32	21	99
1890.....	23	16	33	34	106	15	13	24	24	76	25	13	30	19	104
1891.....	13	12	24	24	73	23	17	25	20	85	18	18	29	29	92
1892.....	45	25	54	39	163	24	19	35	31	109	25	20	23	21	131
1893.....	24	20	41	41	126	26	22	32	37	117	35	23	38	35	131
1894.....	25	19	32	16	92	19	16	31	26	92	31	22	33	29	115
1895.....	24	18	22	25	89	20	16	31	20	87	28	28	22	29	107
1896.....	26	12	30	29	97	29	18	26	21	94	29	20	32	29	110
Total.....	418	307	578	530	1,833	390	273	542	515	1,720	454	372	632	496	1,954
Total by color..	725		1,108		.....	663		1,057		.....	826		1,128		.....
Total males.....			996		.....	932				.....	1,086				.....
Total females....			837		.....	788				.....	868				.....

Year.	April.					May.					June.					Grand totals by months.
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.	
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.		
1876.....	7	5	21	10	43	12	10	12	17	51	58	44	52	45	199	1,041
1877.....	9	18	25	15	67	11	13	24	20	68	42	32	46	41	161	1,133
1878.....	10	13	32	26	81	38	30	45	42	155	49	28	65	41	183	1,165
1879.....	24	15	20	20	79	15	15	21	16	67	52	55	55	48	210	1,206
1880.....	13	15	33	23	84	29	22	32	31	114	47	48	60	67	222	1,305
1881.....	14	14	26	21	75	14	6	24	12	58	39	18	32	26	115	1,041
1882.....	8	14	17	18	57	14	6	33	15	68	39	32	38	54	163	1,237
1883.....	11	14	18	20	73	18	16	20	12	66	30	24	39	34	127	1,079
1884.....	15	10	21	18	64	17	7	24	17	65	45	50	50	43	188	1,205
1885.....	18	15	40	17	90	9	13	23	23	68	45	38	63	49	195	1,301
1886.....	18	15	39	19	91	14	6	25	25	70	35	25	32	33	125	1,160
1887.....	14	13	26	22	75	14	13	25	24	76	64	50	57	68	239	1,280
1888.....	22	15	23	27	87	18	13	29	22	82	40	60	48	54	202	1,355
1889.....	19	13	28	24	84	12	11	17	26	66	60	38	54	52	204	1,468
1890.....	18	14	32	14	78	35	22	49	45	151	62	57	70	68	257	1,429
1891.....	31	15	40	37	123	23	16	25	35	99	71	44	59	47	221	1,433
1892.....	17	18	35	23	83	25	20	28	13	86	71	56	66	59	249	1,571
1893.....	28	17	36	23	104	24	25	37	30	116	59	59	58	50	226	1,744
1894.....	29	13	33	25	100	19	22	33	84	108	83	66	79	82	310	1,646
1895.....	26	17	23	22	88	24	17	25	20	86	30	20	31	22	103	1,257
1896.....	19	13	28	22	82	19	16	29	18	82	53	34	54	53	194	1,523
Total.....	370	296	606	446	1,718	404	319	580	497	1,800	1,074	878	1,108	1,033	4,093	27,579
Total by color..	666		1,052		723		1,077		1,952		2,141		(W. C.)	11,967
Total males.....			976		984				2,182				14,771
Total females....			742		816				1,911				12,808

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TABLE XXIII.—Deaths of children under 5 years of age in the District of Columbia during sixteen calendar years, less those by violence.

Year.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880...	86	120	206	69	95	164	56	95	151	67	79	146	52	65	117	53	68	121
1881...	114	145	259	95	125	220	86	101	187	71	86	157	66	87	145	40	67	107
1882...	108	133	241	50	91	141	40	85	125	71	68	139	45	72	117	49	57	106
1883...	149	140	289	75	117	192	70	88	158	39	71	110	46	85	131	79	118	197
1884...	72	113	185	114	118	232	94	103	197	52	71	123	50	58	108	53	73	126
1885...	131	158	289	66	100	166	67	72	139	35	66	101	39	76	115	41	61	102
1886...	185	113	198	83	118	201	77	98	175	65	96	161	41	71	112	42	56	98
1887...	137	118	255	83	92	175	79	86	165	51	61	112	37	56	93	57	70	127
1888...	141	145	286	123	171	294	86	106	192	59	91	150	57	56	113	48	91	139
1889...	105	124	229	119	113	232	71	80	151	73	60	133	50	65	115	49	73	122
1890...	117	127	244	79	106	185	90	103	193	63	68	131	53	61	114	58	72	130
1891...	130	141	271	93	112	205	87	105	192	81	87	168	57	69	126	72	86	158
1892...	202	205	407	96	110	206	87	102	189	80	98	178	56	65	121	61	75	136
1893...	125	182	307	118	116	234	80	101	181	75	64	139	53	67	120	59	51	110
1894...	122	133	255	77	93	170	80	83	163	69	84	153	55	55	110	55	61	116
1895...	145	156	301	120	116	236	83	93	176	87	95	182	52	71	123	70	55	125
Total	1,969	2,153	4,122	1,460	1,793	3,253	1,233	1,501	2,734	1,038	1,245	2,283	799	1,081	1,880	886	1,134	2,020

Year.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880...																		
1881...	47	59	106	49	87	136	51	98	149	50	87	137	45	32	77			
1882...	54	77	131	62	96	158	73	84	157	48	57	99	65	68	133	102	110	212
1883...	52	75	127	36	74	113	82	89	171	48	84	132	58	55	113	80	89	169
1884...	74	106	180	68	97	165	59	87	140	62	65	127	46	60	115	123	123	246
1885...	56	80	136	58	104	162	69	88	157	49	104	153	42	83	125	112	144	256
1886...	61	70	131	57	75	132	46	85	131	37	89	126	30	66	96	80	88	168
1887...	46	62	108	23	61	84	58	79	137	52	72	124	38	68	106	135	153	288
1888...	49	96	145	67	88	155	95	105	200	61	77	138	54	74	128	129	117	246
1889...	66	103	169	38	81	119	66	99	156	53	77	130	37	58	95	125	123	248
1890...	62	123	185	39	77	116	54	83	137	45	74	119	75	125	200	154	175	329
1891...	49	80	129	65	82	147	62	128	190	66	118	184	60	99	159	133	131	264
1892...	93	117	210	63	98	161	67	75	142	56	76	132	58	63	121	149	150	299
1893...	63	105	168	71	102	173	76	98	174	65	78	143	70	88	158	143	124	267
1894...	60	74	134	57	82	139	76	101	177	55	83	138	55	87	142	171	188	359
1895...	61	66	127	57	79	136	67	85	152	59	66	125	62	60	122	66	80	146
1896...	68	86	154	65	85	150	77	102	179	53	74	127	48	67	115	99	123	222
Total	961	1,379	2,340	878	1,368	2,246	1,078	1,471	2,549	859	1,275	2,134	843	1,182	2,025	1,872	1,995	3,867

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TABLE XXV.—Deaths of persons over 60 years of age, less those by violence.

Year.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1880.....	29	18	47	20	18	38	39	21	60	44	18	62	27	16	43	45	21	66
1881.....	43	20	63	38	26	64	26	18	44	52	21	73	44	21	65	49	22	71
1882.....	34	21	55	31	22	53	26	25	51	31	29	60	29	17	46	37	21	58
1883.....	51	19	70	38	28	66	33	16	49	32	16	48	49	17	66	64	24	88
1884.....	41	31	72	29	25	54	32	16	48	46	17	63	46	26	72	39	31	70
1885.....	61	31	92	48	23	71	38	28	66	38	17	55	35	26	61	38	21	59
1886.....	49	31	80	42	27	69	64	25	89	44	17	61	47	26	73	47	25	72
1887.....	59	30	89	40	26	66	48	32	80	58	18	76	45	30	75	49	22	71
1888.....	52	24	76	43	22	65	33	16	49	39	21	60	37	22	59	59	22	81
1889.....	52	29	81	40	23	63	39	23	62	60	28	88	47	27	74	44	22	66
1890.....	41	26	67	36	19	55	49	17	66	52	29	81	65	19	84	76	35	111
1891.....	50	28	78	61	24	85	46	25	71	58	14	72	56	20	76	88	34	122
1892.....	88	38	126	81	24	105	62	25	87	72	33	105	65	24	89	67	35	102
1893.....	70	24	94	63	18	81	46	16	62	64	24	88	70	20	90	110	34	144
1894.....	71	33	104	60	18	78	57	19	76	55	27	82	53	23	76	70	29	99
1895.....	44	27	71	69	36	105	49	20	69	99	24	123	58	28	86	80	24	104
Total ..	835	430	1,265	739	379	1,118	687	342	1,029	844	353	1,197	773	362	1,135	962	422	1,384

Year.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1881.....	54	24	78	37	20	57	47	21	68	49	25	74	38	22	60	30	17	47
1882.....	56	21	77	37	36	73	53	17	70	43	32	75	38	25	63	30	24	54
1883.....	45	23	68	42	21	63	56	30	86	57	17	74	51	17	68	36	20	56
1884.....	50	24	74	53	22	75	64	25	89	53	30	83	32	20	52	34	17	51
1885.....	51	26	77	68	31	99	72	36	108	48	31	79	34	32	66	53	28	81
1886.....	50	17	67	51	43	94	68	30	98	56	26	82	42	28	70	39	21	60
1887.....	57	21	78	43	26	69	54	17	71	47	31	78	33	25	58	40	22	62
1888.....	68	30	98	66	22	88	72	29	101	52	19	71	56	22	78	39	27	66
1889.....	57	30	87	51	21	72	69	26	95	68	34	102	45	26	71	47	20	67
1890.....	77	33	110	64	20	84	67	35	102	53	27	80	53	26	79	52	25	77
1891.....	61	28	89	52	17	69	86	37	123	149	51	200	59	26	85	56	20	76
1892.....	120	54	174	75	33	108	86	28	114	76	25	101	65	25	90	62	15	77
1893.....	91	29	120	79	27	106	113	28	141	80	29	109	70	88	158	57	19	76
1894.....	89	24	113	80	26	106	90	34	124	86	28	114	48	17	65	71	40	111
1895.....	76	16	92	67	38	105	99	42	141	45	40	85	61	56	120	65	30	95
1896.....	84	33	117	80	38	118	87	34	121	88	29	117	66	24	90	54	22	76
Total ..	1,086	433	1,519	945	441	1,386	1,183	469	1,652	1,050	472	1,514	791	482	1,273	765	367	1,182

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TABLE XXVI.—Deaths from diarrheal diseases during nineteen years, from January 1, 1877, to December 31, 1895, inclusive.

Month.	1877.			1878.			1879.			1880.			1881.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
January.....	2	3	5	6	1	6	6	1	7	3	2	5	3	2	5
February.....	1	2	3	1	1	2	4	2	6	3	4	7	4	3	7
March.....	6	3	9	6	2	8	.....	2	2	4	.....	4	3	.....	3
April.....	3	1	4	3	3	6	3	2	5	4	2	6	5	2	7
May.....	.....	.....	.....	32	19	51	7	2	9	15	18	33	5	5	10
June.....	46	32	78	46	47	93	78	51	129	54	57	111	39	28	67
July.....	59	83	142	33	76	109	72	73	145	33	42	75	72	70	142
August.....	39	53	92	30	52	82	31	35	66	11	26	37	51	63	114
September.....	16	16	32	7	15	22	17	30	47	11	17	28	40	32	72
October.....	9	11	20	12	8	20	7	16	23	7	9	16	17	20	37
November.....	4	5	9	3	1	4	2	6	8	4	4	8	12	10	22
December.....	3	3	6	3	2	5	2	2	4	3	2	5	1	2	3
Total.....	188	212	400	182	226	408	229	222	451	152	183	335	252	237	489
Month.	1882.			1883.			1884.			1885.			1886.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
January.....	2	4	6	.....	1	1	1	.....	1	3	2	5	2	0	2
February.....	4	2	6	2	.....	2	1	2	3	1	2	3	3	1	4
March.....	6	1	7	1	3	4	3	5	8	2	4	6	3	.....	3
April.....	4	4	8	2	3	5	3	1	4	.....	4	4	0	2	2
May.....	5	3	8	5	3	8	1	7	8	3	2	5	3	1	4
June.....	46	43	89	34	25	59	49	50	99	57	43	100	31	20	51
July.....	64	80	144	69	61	130	40	46	86	71	71	142	46	46	92
August.....	29	40	69	39	40	79	48	37	85	27	31	58	35	43	78
September.....	5	26	31	9	23	32	35	31	66	19	14	33	19	15	34
October.....	7	9	16	4	5	9	8	12	20	12	6	18	6	10	16
November.....	6	7	13	5	6	11	5	7	12	2	4	6	11	4	15
December.....	2	3	5	3	1	4	4	3	7	.....	2	2	2	3	5
Total.....	180	222	402	173	171	344	198	201	399	197	185	382	161	135	306
Month.	1887.			1888.			1889.			1890.			1891.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
January.....	2	0	2	4	0	4	2	0	2	2	2	4	4	2	6
February.....	2	3	5	3	2	5	3	3	6	2	4	6	4	0	4
March.....	3	0	3	3	2	5	4	1	5	2	2	4	0	0	2
April.....	2	5	7	5	2	7	2	1	3	3	3	6	2	0	8
May.....	0	9	9	1	4	5	2	3	5	16	22	38	4	4	4
June.....	68	69	137	41	49	90	58	41	99	66	76	142	64	56	120
July.....	68	63	131	76	65	141	65	57	122	41	46	87	65	67	132
August.....	28	35	63	56	71	127	52	43	95	27	38	65	47	36	83
September.....	18	15	33	25	32	57	11	24	35	22	26	48	21	31	52
October.....	9	9	18	8	12	20	13	7	20	14	7	21	16	15	31
November.....	1	1	2	1	9	10	2	4	6	4	3	7	5	2	7
December.....	7	2	9	2	2	4	2	1	3	1	2	3	6	5	11
Total.....	207	211	418	232	242	474	216	185	401	200	231	431	238	218	456
Month.	1892.			1893.			1894.			1895.			Total in 19 years.		Mean, by months.
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.			
January.....	3	3	6	4	1	5	1	2	3	3	1	4	79		4.1
February.....	2	2	4	6	2	8	2	2	4	3	8	9	93		4.1
March.....	7	2	9	5	1	6	4	3	7	4	5	9	102		5.4
April.....	2	1	3	3	3	6	4	4	8	3	3	6	95		5.0
May.....	4	4	8	8	4	12	7	9	16	3	3	6	247		13.0
June.....	72	61	133	64	45	109	97	80	177	23	21	49	1,932		101.1
July.....	134	127	261	64	80	144	49	44	93	72	79	151	2,489		129.1
August.....	47	47	92	48	36	84	16	35	51	43	46	89	1,509		79.0
September.....	24	20	44	21	21	42	11	4	15	28	33	61	784		41.0
October.....	13	12	25	14	9	23	8	10	18	16	16	34	405		21.0
November.....	3	3	6	2	3	5	1	3	4	9	3	12	165		8.1
December.....	2	2	4	5	1	6	4	2	6	5	3	8	100		6.0
Total.....	311	284	595	244	206	450	204	198	402	221	216	437	7,980		.....

TABLE XXVII.—*Showing deaths from consumption, by sex, color, and months, for twenty calendar years ended December 31, 1895.*

Year.	January.				February.				March.				April.				May.			
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1876.....	28	13	6	11	18	14	19	18	17	14	6	12	17	9	16	18	8	14	9	13
1877.....	13	10	6	15	15	19	5	18	12	14	13	10	13	15	12	12	24	10	10	10
1878.....	14	33	20	24	13	19	13	13	18	18	19	15	14	18	20	16	7	14	10	17
1879.....	26	12	6	17	15	14	13	16	15	17	21	16	12	18	17	16	9	10	20	13
1880.....	18	11	18	21	22	18	16	28	14	15	30	19	16	18	14	19	11	22	15	25
1881.....	21	22	14	12	14	15	16	25	17	16	18	26	17	11	22	35	22	13	18	17
1882.....	15	11	11	26	20	11	20	16	24	25	15	20	15	18	13	23	15	17	18	17
1883.....	19	17	13	23	10	15	16	24	28	23	17	26	13	17	15	20	16	12	14	20
1884.....	22	28	12	30	16	14	27	23	16	16	16	16	14	24	8	27	24	8	22	23
1885.....	11	13	24	18	23	20	12	23	16	16	24	14	18	24	21	21	20	12	14	35
1886.....	19	14	13	23	13	15	13	21	17	21	21	20	14	12	22	20	16	12	14	24
1887.....	16	18	15	18	23	10	13	18	21	19	12	24	13	16	17	21	5	10	9	21
1888.....	13	18	8	13	20	18	14	17	21	19	5	30	14	13	13	33	9	11	9	21
1889.....	17	7	15	21	14	14	19	14	11	18	22	21	18	16	16	13	14	13	16	21
1890.....	16	20	21	20	14	16	19	14	22	15	18	20	17	13	19	17	23	5	14	11
1891.....	8	8	24	15	16	14	11	12	16	17	25	24	27	15	20	27	15	15	16	17
1892.....	16	18	17	15	15	12	20	23	14	8	15	18	16	11	22	11	17	4	18	13
1893.....	23	11	14	20	10	15	16	12	13	17	14	13	23	15	11	20	14	16	15	20
1894.....	14	12	21	12	8	11	17	17	20	14	20	18	15	16	13	16	18	17	17	19
1895.....	15	16	16	16	22	18	16	10	12	7	15	21	19	16	23	15	21	12	10	13
Total ..	347	312	297	370	321	302	315	362	344	329	346	383	325	315	334	400	298	247	288	367

Year.	June.				July.				August.				September.			
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1876.....	19	9	12	11	10	15	15	14	5	7	7	19	11	11	10	9
1877.....	11	8	15	20	7	12	10	20	10	10	9	17	16	9	7	12
1878.....	11	10	11	21	9	14	9	25	16	18	16	18	13	13	10	23
1879.....	15	13	15	26	11	13	13	20	11	10	10	19	14	9	12	19
1880.....	10	10	14	23	10	12	9	14	15	16	8	17	12	12	13	16
1881.....	14	11	16	14	6	14	17	28	15	9	13	19	13	9	15	29
1882.....	14	9	12	24	9	11	9	18	9	11	12	9	11	13	15	18
1883.....	10	9	13	16	14	18	13	13	9	14	11	23	18	12	16	19
1884.....	13	16	16	22	19	20	14	16	17	16	14	9	14	13	10	18
1885.....	9	11	10	24	14	20	18	22	11	15	11	23	16	15	14	20
1886.....	14	11	26	25	13	14	13	18	12	12	15	14	19	12	14	13
1887.....	9	12	16	13	9	13	12	21	8	14	7	14	14	20	12	22
1888.....	5	15	13	11	10	9	17	6	15	5	10	23	14	7	15	25
1889.....	9	11	17	15	12	8	20	23	14	13	19	22	9	8	16	17
1890.....	12	14	14	19	3	12	12	14	13	12	9	17	13	22	12	11
1891.....	14	8	19	15	16	7	13	13	13	12	17	17	13	15	14	10
1892.....	13	14	17	14	14	16	19	13	10	16	15	11	7	10	7	18
1893.....	15	9	13	16	8	7	17	17	10	5	5	17	12	12	16	20
1894.....	7	11	9	11	14	11	12	13	13	3	10	12	12	9	9	11
1895.....	19	7	16	8	10	10	17	17	8	13	13	17	17	7	17	6
Total ..	243	219	294	348	218	256	279	345	234	231	231	337	268	233	254	236

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TABLE XXVII.—*Showing deaths from consumption, by sex, color, and months, for twenty calendar years ending December 31, 1895—Continued.*

Year.	October.				November.				December.				Total.			
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1876.....	14	14	12	13	17	13	9	21	14	13	7	13	178	146	128	172
1877.....	14	17	8	24	12	13	13	9	18	17	13	14	165	154	121	181
1878.....	9	18	7	10	14	23	8	10	18	15	15	15	156	201	158	207
1879.....	9	13	4	13	14	9	16	16	16	20	11	17	167	158	158	208
1880.....	18	14	14	21	17	11	9	18	17	20	8	14	180	179	166	235
1881.....	17	18	15	17	22	18	13	14	17	20	15	18	195	176	192	254
1882.....	14	14	15	13	12	16	15	16	9	11	21	23	167	168	179	223
1883.....	14	7	18	9	14	19	14	25	21	12	10	23	186	176	169	241
1884.....	13	10	15	14	18	14	16	8	14	13	18	19	200	192	188	225
1885.....	14	15	12	19	12	7	17	14	20	17	10	20	187	185	187	253
1886.....	20	11	15	19	16	17	18	20	22	18	10	15	195	169	194	232
1887.....	18	14	15	9	13	19	16	16	20	12	5	16	169	177	149	210
1888.....	15	21	17	7	11	12	10	15	9	15	14	23	156	163	145	221
1889.....	13	13	11	14	7	17	12	14	24	12	26	19	162	150	209	214
1890.....	23	15	18	21	15	15	15	15	19	15	21	9	190	174	192	188
1891.....	17	15	11	18	23	15	15	14	12	16	13	12	190	157	200	194
1892.....	18	10	9	22	14	11	9	18	17	9	13	10	171	140	181	186
1893.....	11	9	9	20	10	16	15	14	23	23	18	8	172	155	163	197
1894.....	11	17	19	16	16	9	9	18	11	15	19	19	159	145	175	182
1895.....	16	19	10	12	14	14	7	23	12	7	13	19	185	146	173	177
Total ..	298	284	264	311	291	288	256	318	333	298	260	326	3,530	3,220	3,427	4,203

TABLE XXVIII.—*Deaths from consumption, by ages, during seventeen years ended June 30, 1896.*

Age.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Under 1 year.....	30	43	107	109	289
1 to 2 years.....	20	23	100	120	263
2 to 3 years.....	11	10	80	94	195
3 to 4 years.....	4	7	43	54	108
4 to 5 years.....	2	2	37	38	79
Total deaths under 5 years.....	67	85	367	415	934
5 to 10 years.....	10	12	89	148	259
10 to 20 years.....	132	283	364	636	1,415
20 to 30 years.....	731	761	727	987	3,206
30 to 40 years.....	643	591	478	565	2,277
40 to 50 years.....	552	391	352	346	1,641
50 to 60 years.....	391	244	245	161	1,041
60 to 70 years.....	226	183	125	95	629
70 to 80 years.....	96	86	58	67	307
80 to 90 years.....	8	19	14	21	62
90 to 100 years and over.....	1	0	1	6	8
Total.....	2,857	2,655	2,820	3,447	11,779
Total by color.....	5,512		6,267	
Grand total.....	11,779			

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TABLE XXIX.—Total deaths from eighteen different diseases and suicides during twenty-one fiscal years, from July 1, 1875, to June 30, 1896.

Disease.	1876.					1877.					1878.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	171	135	108	165	579	159	149	121	174	603	154	180	153	202	689
Typhoid fever.....	29	33	22	14	98	24	30	11	17	82	38	29	20	14	101
Apoplexy.....	30	32	22	20	104	40	34	12	24	110	33	24	10	22	89
Insanity.....	3	2	3	...	8	10	5	5	3	23	4	...	1	1	6
Softening of the brain.....	10	2	4	1	17	15	4	2	1	22	9	11	1	...	21
Paralysis, hemiplegia, paraplegia.....	5	6	4	5	20	9	5	6	7	27	17	19	10	7	53
Cancer.....	8	30	4	13	55	12	38	3	14	67	19	32	4	12	67
Epilepsy.....	8	4	5	4	21	7	5	1	3	16	2	3	...	2	7
Diseases of the heart.....	49	36	27	40	152	48	43	33	19	143	38	45	23	31	137
Bright's disease.....	14	7	7	5	33	17	5	2	1	25	18	5	6	7	36
Rheumatism.....	5	2	1	2	10	2	6	4	3	15	3	...	2	...	5
Aneurisms.....	3	1	4	1	9	...	...	2	...	2	5	...	1	1	7
Angina pectoris.....	1	2	1	...	4	6	1	...	2	9	7	2	...	2	11
Gastritis.....	12	16	7	3	38	10	4	3	3	20	6	8	5	2	21
Cirrhosis of liver.....	8	2	1	...	11	8	2	...	2	12	1	2	1	...	4
Dropsy.....	13	12	22	13	60	10	17	10	8	45	18	19	29	27	93
Diabetes.....	...	...	...	1	1	1	1	1	1	4	...	...	...	...	4
Hemia.....	4	1	3	1	9	1	1	2	...	4	2	1	1	...	4
Suicides.....	3	2	...	...	5	3	2	...	...	5	6	...	...	...	6

Disease.	1879.					1880.					1881.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	171	183	157	205	716	166	168	173	239	746	194	173	163	229	759
Typhoid fever.....	27	18	19	10	74	20	23	19	22	84	24	20	13	10	67
Apoplexy.....	24	21	15	16	76	30	15	10	16	71	40	23	19	17	99
Insanity.....	7	2	3	...	12	9	5	1	2	17	26	7	3	2	38
Softening of the brain.....	8	7	1	5	21	4	1	3	3	11	8	1	3	3	15
Paralysis, hemiplegia, paraplegia.....	22	12	7	9	50	28	23	10	21	82	28	17	9	14	68
Cancer.....	12	48	3	23	86	21	29	5	16	71	17	47	1	22	87
Epilepsy.....	4	2	1	1	8	3	...	2	4	9	5	2	4	1	12
Diseases of the heart.....	49	30	21	25	125	43	33	23	28	127	43	38	36	33	150
Bright's disease.....	5	4	7	5	21	17	9	4	5	35	12	10	9	6	37
Rheumatism.....	...	4	3	4	11	5	2	4	2	13	10	7	3	4	24
Aneurisms.....	6	...	2	...	8	5	...	5	3	13	5	1	5	...	11
Angina pectoris.....	4	...	2	...	6	2	3	2	3	10	5	3	...	...	8
Gastritis.....	8	4	3	5	20	9	6	3	7	25	12	11	2	2	27
Cirrhosis of liver.....	2	2	1	...	5	8	2	...	2	12	11	1	2	...	14
Dropsy.....	23	24	31	27	105	11	17	22	10	60	7	12	11	12	42
Diabetes.....	5	1	1	1	8	3	1	...	...	4	3	1	...	...	4
Hemia.....	...	5	2	...	7	3	4	...	...	7	3	3	1	...	7
Suicides.....	4	3	...	...	7	16	3	2	...	21	7	4	...	...	11

Disease.	1882.					1883.					1884.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	193	180	180	251	804	160	170	174	226	730	195	188	183	253	819
Typhoid fever.....	37	37	23	23	120	18	31	26	17	92	32	21	13	10	76
Apoplexy.....	31	23	10	19	83	26	31	11	16	84	44	36	16	18	114
Insanity.....	28	4	4	7	43	31	8	6	6	51	32	6	12	6	56
Softening of the brain.....	6	5	4	2	17	6	3	...	3	12	8	5	...	2	15
Paralysis, hemiplegia, paraplegia.....	18	6	12	19	55	16	18	5	6	45	21	23	3	11	58
Cancer.....	21	34	8	17	80	17	36	7	19	79	22	44	4	20	90
Epilepsy.....	6	3	7	5	21	7	1	4	1	13	2	...	3	...	5
Diseases of the heart.....	74	44	28	39	185	78	58	33	36	205	78	51	33	60	222
Bright's disease.....	21	15	10	11	57	12	9	7	5	33	22	11	10	6	49
Rheumatism.....	4	9	...	6	19	9	15	7	7	38	15	9	6	6	36
Aneurisms.....	3	2	2	...	7	6	...	2	2	10	5	4	2	2	13
Angina pectoris.....	5	2	1	1	9	5	4	...	...	11	3	5	1	...	9
Gastritis.....	7	6	2	7	22	16	6	...	...	29	11	8	8	3	30
Cirrhosis of liver.....	4	4	1	...	9	6	3	...	...	10	2	2	...	...	6
Dropsy.....	5	2	13	17	37	10	7	14	11	42	4	12	12	11	39
Diabetes.....	...	1	1	1	5	6	3	1	4
Hemia.....	...	2	3	...	5	3	2	...	1	6	3	3	2	...	8
Suicides.....	10	3	1	1	15	16	3	1	1	21	10	1	1	...	12

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TABLE XXIX.—Total deaths from eighteen different diseases and suicides during twenty-one fiscal years, from July 1, 1875, to June 30, 1896—Continued.

Disease.	1885.					1886.					1887.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	195	182	192	219	788	180	174	191	251	796	189	169	167	211	736
Typhoid fever.....	48	35	14	27	124	46	35	24	23	128	32	40	24	20	116
Apoplexy.....	43	24	24	10	101	40	34	22	29	125	46	32	17	20	115
Insanity.....	57	13	17	7	94	68	16	11	6	101	52	13	18	9	92
Softening of the brain.....	7	5	2	1	15	9	5	1	2	17	8	5	2	1	16
Paralysis, hemiplegia, paraplegia.....	26	27	9	17	73	19	17	13	15	64	12	10	14	10	46
Cancer.....	23	61	10	23	119	27	53	4	19	103	25	55	8	26	114
Epilepsy.....	3	1	3	8	4	2	1	2	9	2	2	2	2	2	8
Diseases of the heart.....	65	78	40	52	235	72	48	41	74	235	66	77	45	53	241
Bright's disease.....	25	9	10	9	53	19	13	13	8	53	19	14	7	9	49
Rheumatism.....	11	10	7	6	34	21	6	4	3	34	13	13	3	7	36
Aneurisms.....	2	1	8	...	11	8	...	2	2	12	3	1	1	...	5
Angina pectoris.....	4	2	1	...	7	4	1	1	1	7	3	1	1	...	5
Gastritis.....	13	10	4	4	31	11	16	5	5	37	14	10	5	5	34
Cirrhosis of liver.....	9	5	1	...	15	9	5	2	1	17	10	3	1	1	15
Dropsy.....	10	8	8	11	37	9	5	11	13	38	4	8	8	10	30
Diabetes.....	6	3	1	...	10	5	6	1	...	12	7	3	2	1	13
Hernia.....	1	...	4	...	5	4	2	2	...	8	2	1	2	1	6
Suicides.....	11	2	...	...	13	13	1	2	1	17	17	4	2	1	24

Disease.	1888.					1889.					1890.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	164	186	129	223	702	157	148	188	204	697	183	154	209	210	756
Typhoid fever.....	47	48	37	36	168	53	43	41	33	170	66	52	43	47	208
Apoplexy.....	66	30	19	23	138	46	22	22	26	116	48	28	14	23	113
Insanity.....	77	16	13	11	117	72	18	10	10	110	74	20	18	11	123
Softening of the brain.....	4	5	1	...	10	9	6	4	1	20	9	6	7	1	23
Paralysis, hemiplegia, paraplegia.....	16	18	17	12	63	20	22	14	20	76	18	24	10	17	69
Cancer.....	27	47	4	22	100	26	73	2	18	119	26	66	6	23	121
Epilepsy.....	6	6	4	2	18	3	4	1	8	4	4	5	5	1	15
Diseases of the heart.....	81	68	58	66	273	93	61	49	64	267	94	66	51	62	273
Bright's disease.....	18	17	10	15	60	20	6	8	5	39	23	12	16	7	58
Rheumatism.....	17	18	5	13	53	14	11	6	3	34	10	11	8	6	35
Aneurisms.....	5	2	4	2	13	3	2	3	2	10	6	1	3	2	12
Angina pectoris.....	1	2	...	2	5	2	1	1	2	6	5	1	...	1	7
Gastritis.....	18	15	2	6	41	14	16	4	9	43	13	17	6	7	43
Cirrhosis of liver.....	9	4	2	1	16	9	...	2	1	12	13	3	1	...	17
Dropsy.....	8	7	6	10	31	4	7	6	8	25	7	8	11	5	31
Diabetes.....	2	3	1	1	7	5	5	1	1	12	5	3	...	1	9
Hernia.....	2	1	1	...	4	3	...	6	...	9	5	6	1	1	13
Suicides.....	13	5	...	...	18	14	...	1	...	15	20	1	1	...	22

Disease.	1891.					1892.					1893.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	182	168	202	197	749	185	157	194	178	714	178	155	155	193	681
Typhoid fever.....	64	65	40	39	208	70	37	39	37	183	82	40	36	29	187
Apoplexy.....	40	32	13	25	110	66	38	19	26	149	88	66	26	20	209
Insanity.....	74	17	9	10	110	31	11	4	5	51	22	12	8	5	47
Softening of the brain.....	6	1	4	2	14	10	7	2	26	8	3	5	2	18	...
Paralysis, hemiplegia, paraplegia.....	22	23	11	28	84	35	40	22	24	121	23	20	18	21	87
Cancer.....	31	59	10	31	131	35	52	6	18	111	41	75	9	27	152
Epilepsy.....	12	3	4	7	26	13	2	5	2	22	13	6	9	12	40
Diseases of the heart.....	101	81	69	73	324	102	95	65	65	327	116	87	70	72	345
Bright's disease.....	29	26	9	5	63	23	20	14	12	69	33	16	10	4	63
Rheumatism.....	18	11	8	12	49	11	13	10	17	51	16	15	10	10	51
Aneurisms.....	7	1	1	1	10	9	2	5	...	16	9	8	3	3	23
Angina pectoris.....	11	2	...	1	14	10	3	1	2	16	6	6	2	3	17
Gastritis.....	13	11	6	9	39	18	23	4	8	53	8	8	12	8	36
Cirrhosis of liver.....	5	1	1	...	7	18	3	1	1	23	25	9	...	...	38
Dropsy.....	9	10	8	15	42	4	10	12	6	32	7	6	13	11	16
Diabetes.....	7	5	1	1	14	1	7	...	2	10	4	4	1	1	11
Hernia.....	1	4	6	4	...	5	...	9	3	4	3	1	11
Suicides.....	27	6	1	2	36	17	6	1	1	25	34	2	1	...	37

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TABLE XXIX.—Total deaths from eighteen different diseases and suicides during twenty-one fiscal years, from July 1, 1875, to June 30, 1896—Continued.

Disease.	1894.					1895.					1896.				
	White.		Colored.		Total.	White.		Colored.		Total.	White.		Colored.		Total.
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.	
Consumption.....	156	153	177	189	675	185	140	174	172	671	178	157	171	199	705
Typhoid fever.....	76	45	29	41	191	62	56	33	36	187	78	60	45	45	228
Apoplexy.....	65	53	29	23	170	68	50	21	30	169	88	51	30	40	209
Insanity.....	26	8	2	7	43	23	8	2	4	37	32	16	5	.....	53
Softening of the brain.....	6	4	2	2	14	8	9	5	1	23	7	2	3	1	13
Paralysis, hemiplegia, paraplegia.....	31	28	14	21	94	29	17	19	33	98	19	30	12	13	74
Cancer.....	47	52	13	19	131	40	72	5	23	140	31	84	10	30	155
Epilepsy.....	22	2	7	1	32	16	5	9	5	35	14	5	7	5	31
Diseases of the heart.....	107	89	71	61	328	123	69	63	89	344	125	107	82	80	394
Bright disease.....	19	8	12	10	49	11	16	8	3	38	63	49	32	35	179
Rheumatism.....	10	7	2	6	25	15	12	7	7	41	12	6	7	9	34
Aneurism.....	2	.....	5	1	8	3	.....	2	.....	5	7	2	4	1	14
Angina pectoris.....	7	6	1	.....	14	9	4	5	6	24	9	4	2	1	16
Gastritis.....	14	24	7	5	50	16	14	6	4	40	9	15	1	6	31
Cirrhosis of liver.....	24	11	3	4	42	13	6	3	3	25	15	7	1	3	26
Dropsy.....	12	7	4	7	30	2	5	3	7	17	2	7	3	3	15
Diseases.....	8	3	.....	1	14	7	5	.....	2	14	4	6	2	1	13
Hernia.....	3	5	2	.....	14	1	6	9	.....	16	.....	2	1	.....	3
Suicides.....	31	6	2	2	41	26	5	2	1	34	30	5	1	2	38

TABLE XXX.—Deaths from cancers, by color, sex, and nativity, from September 1, 1874,
to June 30, 1896.

[illegible]

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TABLE XXXI.—Deaths from cancers of white females from September 1, 1874, to June 30, 1896.

Cancer of—	Married.		Widows.		Single.		Total deaths from cancers, white females.
	Deaths from cancers.	Percentage to total deaths of married.	Deaths from cancers.	Percentage to total deaths of widows.	Deaths from cancers.	Percentage to total deaths of single.	
Breast.....	89	16.30	86	22.11	49	28.00	224
Uterus.....	249	45.60	125	32.13	30	17.15	404
Ovary.....	11	2.02	6	1.54	2	1.14	19
Stomach.....	48	8.79	60	15.43	29	16.57	137
Liver.....	39	7.14	26	6.68	14	8.00	79
Face, head, neck, mouth, and throat.....	18	3.30	26	6.68	12	5.71	56
All others.....	92	16.85	60	15.43	40	23.43	192
Total.....	546	100.00	389	100.00	176	100.00	1,111

TABLE XXXII.—Deaths from cancers of colored females from September 1, 1874, to June 30, 1896.

Cancer of—	Married.		Widows.		Single.		Total deaths from cancers, colored females.
	Deaths from cancers.	Percentage to total deaths of married.	Deaths from cancers.	Percentage to total deaths of widows.	Deaths from cancers.	Percentage to total deaths of single.	
Breast.....	37	19.37	54	27.84	14	19.44	105
Uterus.....	89	46.59	80	41.24	20	27.78	189
Ovary.....	4	2.10	2	1.03	.....	13.89	6
Stomach.....	23	12.04	32	16.49	11	15.28	66
Liver.....	5	2.62	4	2.06	1	1.39	10
Face, head, neck, mouth, and throat.....	6	3.14	3	1.55	5	6.94	14
All others.....	27	14.14	19	9.79	10	15.28	56
Total.....	191	100.00	194	100.00	61	100.00	446

TABLE XXXIII.—Deaths from cancers, by age, color, and sex, with percentages, from September 1, 1874, to June 30, 1896.

Age.	Color.	Sex.	Cancer of breast.	Cancer of uterus.	Cancer of ovary.	Cancer of stomach.	Cancer of liver.	Cancer of face, head, neck, mouth, and throat.	All other cancers.	Total.
Under 20 years.....	White.....	Male.....	.....	.....	.....	.....	2	5	9	.....
		Female.....	1	1	.....	.....	1	4	9	.....
	Colored.....	Male.....	1	.....	.....	1	.....	1	2	.....
		Female.....	.....	.....	.....	2	.....	1	2	.....
20 to 29 years.....	White.....	Male.....	.....	.....	.....	1	1	2	4	.....
		Female.....	.....	4	3	6	1	2	9	.....
	Colored.....	Male.....	.....	.....	.....	3	2	1	5	.....
		Female.....	2	10	1	3	.....	1	6	.....
30 to 39 years.....	White.....	Male.....	.....	.....	.....	6	6	3	10	.....
		Female.....	12	63	2	7	7	.....	19	.....
	Colored.....	Male.....	1	.....	.....	4	.....	1	1	.....
		Female.....	10	43	3	7	2	1	8	.....
40 to 49 years.....	White.....	Male.....	.....	.....	.....	29	9	22	21	.....
		Female.....	55	126	3	17	18	5	37	.....
	Colored.....	Male.....	.....	.....	.....	18	3	3	3	.....
		Female.....	20	48	.....	13	1	3	15	.....
50 to 59 years.....	White.....	Male.....	.....	.....	.....	50	30	32	42	.....
		Female.....	73	104	4	35	21	8	57	.....
	Colored.....	Male.....	.....	.....	.....	14	6	5	13	.....
		Female.....	28	48	2	11	3	2	6	.....
60 to 69 years.....	White.....	Male.....	.....	.....	.....	40	11	36	47	.....
		Female.....	50	68	5	42	20	13	43	.....
	Colored.....	Male.....	.....	.....	.....	9	4	5	5	.....
		Female.....	22	20	.....	13	2	3	12	.....
70 to 79 years.....	White.....	Male.....	.....	.....	.....	29	8	30	27	.....
		Female.....	31	29	2	26	10	11	18	.....
	Colored.....	Male.....	.....	.....	.....	7	2	1	3	.....
		Female.....	13	16	.....	12	1	1	6	.....
80 to 89 years.....	White.....	Male.....	.....	.....	.....	10	2	11	5	.....
		Female.....	3	7	.....	4	1	11	1	.....
	Colored.....	Male.....	1	.....	.....	.....	.....	1	3	.....
		Female.....	9	4	.....	5	1	2	2	.....
90 years and over.....	White.....	Male.....	.....	.....	.....	.....	.....	.....	.....	.....
		Female.....	.....	2	.....	.....	.....	.....	.....	.....
	Colored.....	Male.....	.....	.....	.....	.....	.....	.....	.....	.....
		Female.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	White.....	Male.....	.....	.....	.....	165	69	141	166	541
		Female.....	225	404	19	137	79	54	193	1,111
	Colored.....	Male.....	3	.....	.....	56	17	18	34	128
		Female.....	104	189	6	66	10	14	57	446
Grand total.....			332	593	25	424	175	227	450	2,226
Percentage to total deaths from cancer.			14.91	26.64	1.12	19.05	7.86	10.20	20.22	100.00

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TABLE XXXIV.—*Number of deaths from cancers, by color, sex, and age, total number of deaths from all causes, and number of deaths from all causes to one of cancer, from September 1, 1874, to June 30, 1896.*

Cause of death.	White.			Colored.			Grand total.
	Male.	Female.	Total.	Male.	Female.	Total.	
Under 20 years:							
Deaths from cancers.....	15	17	32	5	5	10	42
Deaths from all causes.....	11,458	10,587	22,045	14,167	13,961	28,128	50,173
Number of deaths from all causes to 1 from cancer.....	763	662	1,425	2,834	2,327	5,161	.....
20 to 30 years:							
Deaths from cancers.....	9	25	34	11	22	33	67
Deaths from all causes.....	2,321	2,393	4,714	1,903	2,429	4,332	9,046
Number of deaths from all causes to 1 from cancer.....	258	96	354	173	110	283	.....
30 to 40 years:							
Deaths from cancers.....	25	109	134	7	75	82	216
Deaths from all causes.....	2,550	2,325	4,875	1,587	1,881	3,468	8,343
Number of deaths from all causes to 1 from cancer.....	102	21	123	227	25	252	.....
40 to 50 years:							
Deaths from cancers.....	79	263	342	27	100	127	469
Deaths from all causes.....	3,101	2,073	5,174	1,653	1,533	3,186	8,360
Number of deaths from all causes to 1 from cancer.....	39	8	47	61	15	76	.....
50 to 60 years:							
Deaths from cancers.....	154	302	456	37	100	137	593
Deaths from all causes.....	3,319	2,129	5,448	1,440	1,229	2,669	8,117
Number of deaths from all causes to 1 from cancer.....	21	7	28	39	12	51	.....
60 to 70 years:							
Deaths from cancers.....	137	239	376	23	72	95	471
Deaths from all causes.....	3,132	2,319	5,451	1,130	1,144	2,274	7,725
Number of deaths from all causes to 1 from cancer.....	23	9	32	49	16	65	.....
70 to 80 years:							
Deaths from cancers.....	94	127	221	13	49	62	283
Deaths from all causes.....	2,460	2,219	4,679	926	1,032	1,958	6,637
Number of deaths from all causes to 1 from cancer.....	26	17	43	71	21	92	.....
80 years and over:							
Deaths from cancers.....	28	29	57	5	23	28	85
Deaths from all causes.....	913	1,348	2,261	597	1,109	1,706	3,967
Number of deaths from all causes to 1 from cancer.....	33	46	79	119	48	167	.....
Total deaths from cancers.....	541	1,111	1,652	128	446	574	2,226
Total deaths from all causes.....	29,254	25,393	54,647	23,403	24,318	47,721	102,368
Number of deaths from all causes to 1 from cancer.....	54	23	77	183	54	237	.....

TABLE XXXV.—*Showing the number of stillbirths, including legitimate and illegitimate, with percentages of each to stillbirths, and of illegitimate to total illegitimate stillborn, by color, for eighteen years, from 1879 to 1896, inclusive.*

Year.	Number of stillborn.	Color.		Legitimate.		Illegitimate.		Percentage of legitimate to total stillbirths, by color.		Percentage of illegitimate to total stillbirths, by color.		Percentage of illegitimate stillborn to total illegitimate stillborn, by color.	
		White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
1879.....	395	130	265	112	171	18	34	28.4	43.3	4.56	23.8	16.0	84.0
1880.....	358	119	239	105	159	14	80	29.3	44.4	3.90	22.3	14.9	85.1
1881.....	370	141	229	125	143	16	86	33.8	38.6	4.30	23.0	15.7	84.3
1882.....	351	140	211	124	146	16	65	35.3	41.5	4.66	18.6	19.7	80.3
1883.....	362	154	208	136	139	18	69	37.5	38.4	5.07	19.0	20.7	79.3
1884.....	351	132	219	123	141	9	78	35.0	40.2	2.57	22.2	10.3	89.7
1885.....	391	179	212	154	127	25	85	39.4	32.5	6.40	21.7	22.7	77.3
1886.....	406	164	242	149	138	15	104	40.4	34.9	3.70	25.6	12.6	87.4
1887.....	406	149	257	127	146	22	111	31.3	36.0	5.40	27.3	16.6	83.4
1888.....	458	182	276	156	155	26	121	34.1	33.0	5.68	26.4	17.7	82.3
1889.....	443	157	286	137	163	20	123	30.9	36.8	4.51	28.0	14.0	86.0
1890.....	474	183	291	172	181	11	110	36.3	34.2	2.32	23.2	9.1	91.0
1891.....	440	172	268	154	157	18	111	35.0	35.7	4.09	25.2	14.0	86.0
1892.....	467	182	285	169	180	13	105	36.2	38.6	2.78	22.5	11.0	88.9
1893.....	475	161	314	144	180	17	134	30.3	37.9	3.58	28.2	11.2	88.8
1894.....	562	204	358	182	255	21	103	36.6	45.4	3.74	18.3	16.9	83.1
1895.....	540	201	339	173	172	28	167	32.4	31.8	5.20	30.9	14.4	85.6
1896.....	520	181	339	153	172	28	167	29.4	33.8	5.38	32.1	14.4	85.6
Total and mean.	7,769	2,931	4,838	2,596	2,925	335	1,913	33.8	37.6	4.32	24.3	15.1	84.9

TABLE XXXVI.—*Showing the number of legitimate and illegitimate births, with percentages of births to deaths, of stillbirths to births, of illegitimacy to births, and of illegitimacy to total illegitimacy, by color, for eighteen years, from 1879 to 1896, inclusive.*

Year.	Number of deaths.	Number of births.	Births, by color.		Legitimate.		Illegitimate.		Per cent of births to deaths.	Per cent of stillbirths to births.
			White.	Colored.	White.	Colored.	White.	Colored.		
1879.....	4,309	3,816	2,117	1,699	2,068	1,400	49	299	88.5	10.4
1880.....	4,206	4,095	2,297	1,798	2,241	1,455	56	342	97.3	8.8
1881.....	4,136	3,595	2,014	1,581	1,961	1,274	53	307	86.9	10.2
1882.....	4,571	3,391	1,800	1,591	1,747	1,277	53	314	74.2	10.4
1883.....	4,286	3,116	1,684	1,432	1,621	1,132	53	300	72.7	11.6
1884.....	4,814	3,224	1,747	1,477	1,684	1,196	63	281	66.9	10.9
1885.....	4,998	3,334	1,861	1,473	1,805	1,136	56	337	66.7	11.8
1886.....	4,674	3,516	1,981	1,535	1,916	1,184	65	351	75.2	11.5
1887.....	4,665	3,728	2,092	1,636	2,022	1,288	70	348	79.9	10.9
1888.....	5,040	3,670	2,035	1,635	1,964	1,262	71	373	72.8	12.5
1889.....	5,152	4,001	2,176	1,825	2,098	1,397	78	428	77.6	11.0
1890.....	5,564	4,070	2,246	1,824	2,171	1,341	75	483	73.1	11.6
1891.....	5,720	4,344	2,512	1,831	2,440	1,371	73	460	75.9	10.1
1892.....	6,098	4,614	2,648	1,966	2,581	1,447	67	519	75.6	10.1
1893.....	6,452	4,458	2,585	1,873	2,512	1,368	73	505	69.1	10.6
1894.....	6,039	5,042	3,007	2,035	2,930	1,496	77	539	83.5	11.0
1895.....	5,565	4,794	2,878	1,916	2,774	1,396	104	520	86.1	11.3
1896.....	5,904	4,706	2,876	1,920	2,686	1,403	100	517	79.7	11.0
Total and mean.	92,193	71,514	40,557	31,047	39,231	23,824	2,236	7,223	77.9	10.9

Year.	Per cent of illegitimacy to total births.	Per cent of legitimacy to total births, by color.		Per cent of illegitimacy to total births, by color.		Per cent of illegitimacy to total illegitimacy, by color.		Per cent of white illegitimacy to white births, and colored illegitimacy to colored births.	
		White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
1879.....	12.5	54.2	36.7	1.31	7.83	14.0	86.0	2.32	17.60
1880.....	12.0	54.7	35.6	1.38	8.35	14.0	86.0	2.43	19.02
1881.....	12.9	54.6	35.4	1.47	8.54	14.8	85.2	2.33	19.42
1882.....	12.3	51.5	37.7	1.60	9.26	14.4	85.3	2.09	19.73
1883.....	14.1	52.4	36.3	1.74	9.63	15.0	85.0	3.14	20.95
1884.....	13.4	52.2	34.7	1.74	8.70	18.3	81.7	3.60	19.02
1885.....	15.0	54.1	34.7	1.68	10.18	14.3	85.2	3.00	22.88
1886.....	15.2	54.3	33.7	1.85	9.98	15.6	84.4	3.28	22.86
1887.....	14.8	54.5	33.7	1.83	9.33	16.7	83.3	3.34	21.27
1888.....	16.1	53.5	34.5	1.83	10.16	16.0	84.0	3.49	22.18
1889.....	12.7	52.4	34.9	1.93	10.70	15.4	84.6	3.59	23.45
1890.....	13.7	53.3	33.0	1.84	11.90	13.4	86.6	3.34	26.50
1891.....	12.3	56.1	31.5	1.68	10.70	13.7	86.3	2.90	25.12
1892.....	12.7	55.9	31.2	1.45	11.25	11.4	78.6	2.53	26.40
1893.....	12.9	56.3	30.6	1.64	11.30	12.6	87.4	2.82	27.00
1894.....	12.2	58.1	29.6	1.53	10.69	12.5	87.5	2.56	26.46
1895.....	13.0	57.8	29.2	2.17	10.85	16.7	83.3	3.61	27.14
1896.....	13.1	57.0	29.8	2.13	10.99	16.2	83.8	3.48	26.93
Total and mean.	13.4	54.6	33.6	1.73	10.02	14.7	84.7	2.99	23.00

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TABLE XXXVII.—Deaths from pneumonia during twenty-one years, from July 1, 1875, to June 30, 1896, inclusive, by years, months, and color.

Year.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76.....	3	3	6	7	11	18	3	6	9	9	15	24	12	16	28	22	20	42
1876-77.....	4	3	7	5	6	11	3	11	14	8	8	16	9	13	22	15	16	31
1877-78.....	6	6	6	2	5	7	1	4	5	3	10	13	7	15	25	6	20	26
1878-79.....	7	13	20	7	10	17	9	10	19	6	10	16	11	20	31	12	17	29
1879-80.....	5	3	8	6	11	17	4	12	16	4	5	9	17	9	26	11	18	29
1880-81.....	5	13	18	2	9	11	2	5	7	2	10	12	10	10	20	17	19	36
1881-82.....	2	4	6	3	7	10	2	5	7	5	6	11	11	9	20	10	29	39
1882-83.....	2	7	9	2	9	11	5	4	9	4	7	11	12	16	28	18	15	33
1883-84.....	1	6	7	3	4	7	2	4	6	7	11	18	10	14	24	34	29	63
1884-85.....	3	5	8	2	3	5	2	4	6	3	7	10	17	12	29	10	14	24
1885-86.....	5	4	9	2	4	6	7	1	8	5	5	10	4	12	16	11	8	19
1886-87.....	3	5	8	5	7	12	4	7	11	6	5	11	9	11	20	16	20	36
1887-88.....	2	3	5	2	2	4	5	9	14	6	6	12	15	8	23	15	12	37
1888-89.....	3	2	5	2	8	10	4	6	10	13	23	10	10	20	23	24	37	
1889-90.....	2	2	4	4	2	6	6	6	12	8	20	10	13	16	29	13	21	34
1890-91.....	5	4	9	6	10	16	6	9	15	8	8	16	12	14	26	26	26	52
1891-92.....	3	6	9	3	7	10	10	11	21	7	17	24	17	10	27	32	34	66
1892-93.....	6	7	13	7	7	14	12	8	20	13	14	27	11	22	33	12	23	35
1893-94.....	8	7	15	5	5	10	2	9	10	8	15	23	8	20	28	19	47	
1894-95.....	4	3	7	5	6	11	4	6	10	10	17	27	5	21	26	25	21	46
1895-96.....	8	9	17	5	4	9	7	8	15	11	17	28	29	22	51	24	21	45
Total pneumonia.	81	115	196	85	137	222	94	144	238	147	214	361	249	300	549	380	426	806
Total bronchitis.	40	69	106	35	63	98	44	63	107	66	101	167	72	123	195	119	168	287
Total congestion of lungs.....	38	30	68	37	25	62	42	41	83	55	62	117	71	70	141	87	88	175
Total acute lung diseases.....	159	214	370	157	225	382	180	248	428	268	377	645	392	493	805	586	682	1,268

Year.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76.....	15	36	51	23	29	52	40	38	78	22	44	66	15	26	41	2	6	8
1876-77.....	30	28	58	19	42	61	23	31	54	14	19	33	7	8	25	5	13	18
1877-78.....	23	26	49	16	21	37	16	34	50	17	20	37	15	36	51	9	25	34
1878-79.....	22	34	56	20	34	54	30	47	77	19	30	49	4	21	25	3	10	13
1879-80.....	18	23	41	15	22	37	31	30	61	14	25	39	6	20	26	11	8	19
1880-81.....	20	22	42	18	23	41	24	38	62	19	27	46	12	11	23	3	7	10
1881-82.....	18	19	37	22	30	52	19	36	55	20	16	36	15	16	31	8	8	16
1882-83.....	13	23	36	20	23	43	30	31	61	20	24	44	18	10	28	6	5	11
1883-84.....	19	19	38	21	17	38	24	18	42	20	22	42	11	11	22	5	5	10
1884-85.....	11	19	30	19	45	64	24	43	67	21	39	60	13	22	35	4	12	16
1885-86.....	19	17	36	16	26	42	23	29	52	22	29	51	10	13	23	7	7	14
1886-87.....	17	19	36	20	15	35	14	15	29	18	13	31	4	9	13	6	3	9
1887-88.....	28	29	57	26	22	48	29	30	59	22	20	42	16	9	25	3	4	7
1888-89.....	16	27	43	27	27	54	32	28	60	18	18	36	4	10	14	7	2	9
1889-90.....	48	71	119	25	27	52	22	27	49	20	23	43	13	19	32	9	13	22
1890-91.....	23	17	40	17	19	36	44	36	80	86	71	157	11	31	42	14	15	29
1891-92.....	75	64	139	42	45	87	30	37	67	17	21	28	14	9	23	6	10	16
1892-93.....	27	30	57	28	37	65	48	47	95	25	25	50	22	23	45	9	13	22
1893-94.....	29	28	57	39	22	61	32	45	77	22	32	54	11	17	28	2	12	14
1894-95.....	26	24	50	35	33	68	40	35	75	36	24	54	17	17	24	6	9	15
1895-96.....	41	42	83	42	48	90	27	35	62	20	37	57	9	14	23	5	15	20
Total pneumonia.	538	617	1,155	510	607	1,117	602	610	1,312	486	579	1,065	237	352	589	130	202	332
Total bronchitis.	137	215	352	137	221	358	164	217	381	129	180	309	78	112	190	43	85	128
Total congestion of lungs.....	152	123	275	106	95	201	112	77	189	93	87	180	55	66	121	42	43	85
Total acute lung diseases.....	827	955	1,782	753	923	1,676	878	904	1,882	708	846	1,554	370	530	900	215	330	545

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TABLE XXXVIII.—Deaths from bronchitis during twenty-one years, from July 1, 1875, to June 30, 1896, inclusive, by years, months, and color.

Year.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76.....	1	1	2	3	3	6	1	2	3	2	3	5	4	3	7	5	2	7
1876-77.....	2	2	4	3	2	5	2	3	5	3	5	8	2	2	4	6	7	13
1877-78.....	1	1	2	2	4	6	3	2	5	1	2	3	2	2	3	4	4	7
1878-79.....	1	1	2	2	4	6	3	2	5	3	2	5	3	4	7	6	4	10
1879-80.....	2	2	4	2	4	6	4	5	9	1	2	3	1	4	5	4	8	12
1880-81.....	4	4	8	2	4	6	4	5	9	2	4	6	1	6	7	1	5	6
1881-82.....	3	3	6	1	1	2	1	2	3	4	2	6	4	7	11	2	8	10
1882-83.....	1	1	2	2	1	3	1	2	3	4	2	6	1	8	9	4	7	11
1883-84.....	1	1	2	2	3	5	1	3	4	3	5	8	2	11	13	6	14	20
1884-85.....	1	5	6	2	1	3	2	3	5	2	4	6	1	5	6	4	10	14
1885-86.....	4	4	8	1	2	3	1	4	5	2	7	9	3	8	11	3	7	6
1886-87.....	2	4	6	4	4	8	3	5	8	6	9	15	4	11	15	2	5	9
1887-88.....	1	1	2	1	2	3	3	1	4	1	5	10	4	3	7	5	5	10
1888-89.....	1	4	5	1	3	4	3	2	5	5	5	16	3	6	9	12	9	21
1889-90.....	4	4	8	1	3	4	2	1	3	5	2	7	2	10	12	7	11	18
1890-91.....	2	5	7	3	9	12	4	2	6	3	10	13	4	7	11	6	10	16
1891-92.....	1	6	7	2	4	6	1	3	4	3	5	8	6	9	15	9	14	23
1892-93.....	3	7	10	2	6	8	4	7	11	5	6	11	8	7	15	7	11	18
1893-94.....	4	6	10	1	1	2	5	2	7	7	8	15	6	3	9	8	16	24
1894-95.....	3	5	8	2	4	6	1	3	4	3	4	7	7	3	10	5	5	10
1895-96.....	4	3	7	1	7	8	3	5	8	3	6	9	6	4	10	14	8	22
Total.....	40	69	106	35	63	98	44	63	107	66	101	167	72	123	195	119	168	287

Year.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76.....	3	6	9	5	4	9	10	5	15	6	5	11	2	.....	2	1	3	4
1876-77.....	5	4	9	2	10	12	2	5	7	5	1	6	1	.....	1	.....	3	3
1877-78.....	4	5	9	3	3	6	3	2	5	3	1	4	2	4	6	2	6	8
1878-79.....	6	4	10	2	5	7	6	8	14	2	12	14	.....	5	5	2	1	3
1879-80.....	6	6	12	7	14	21	5	14	19	3	8	11	2	5	7	.....	7	7
1880-81.....	4	7	11	6	8	14	4	9	13	3	11	14	2	5	7	1	.....	1
1881-82.....	4	8	12	3	9	12	2	5	7	6	7	13	1	4	5	3	6	9
1882-83.....	4	5	9	2	9	11	5	7	12	1	5	6	2	6	8	1	5	6
1883-84.....	9	13	22	9	17	26	6	11	17	4	8	2	3	5	.....	1	1	1
1884-85.....	3	10	13	8	4	12	5	3	8	2	13	15	2	7	9	2	2	4
1885-86.....	8	8	16	4	12	16	8	13	21	6	9	15	1	4	5	2	4	6
1886-87.....	2	8	10	8	7	15	7	5	12	4	8	12	5	8	13	2	3	5
1887-88.....	5	14	19	8	10	18	8	15	23	2	2	4	3	1	4	2	3	5
1888-89.....	7	14	21	5	14	19	11	8	19	4	11	15	1	2	3	1	2	3
1889-90.....	6	25	31	6	13	19	11	16	27	9	10	19	9	12	21	2	10	12
1890-91.....	8	8	16	10	9	19	10	19	29	32	22	54	12	14	26	6	7	13
1891-92.....	25	22	47	19	20	39	15	11	26	6	11	17	7	10	17	6	4	10
1892-93.....	11	24	35	11	19	30	16	14	30	12	11	23	11	8	19	3	3	6
1893-94.....	10	9	19	5	12	17	15	14	29	7	9	16	6	5	11	2	8	10
1894-95.....	4	7	11	6	13	19	8	9	17	8	7	15	4	4	8	3	4	7
1895-96.....	7	8	15	8	9	17	7	14	21	4	13	17	3	5	8	2	3	5
Total.....	137	215	352	137	221	358	164	217	381	129	180	309	78	112	190	43	85	128

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TABLE XXXIX.—Deaths from congestion of the lungs during twenty-one years, from July 1, 1875, to June 30, 1896, inclusive, by months, years, and color.

Year.	July.			August.			September.			October.			November.			December.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76	2	1	3	2	1	3	2	4	6	4	4	2	5	7	1	2	3	2
1876-77	1	2	3	1	1	1	1	2	3	1	1	1	1	1	2	2	2	2
1877-78	1	1	1	3	3	6	2	1	3	3	3	3	1	4	2	2	2	2
1878-79	3	1	4	4	3	5	2	1	3	4	3	7	3	7	10	4	4	8
1879-80	4	1	5	1	1	5	1	5	1	6	1	1	2	6	4	10	10	10
1880-81	1	3	4	1	2	3	2	4	6	3	3	5	5	5	6	5	11	5
1881-82	1	1	1	1	1	2	2	1	3	3	4	7	4	8	4	1	5	5
1882-83	2	2	4	2	3	5	2	1	3	1	3	4	1	1	2	4	7	11
1883-84						3	3		3	3	2	3	5	4	1	5	1	3
1884-85	3			3		2	2		4	4	2	3	5	2	3	5	5	6
1885-86	1	1	2	3		3	3	3	3	1	5	6	4	2	6	2	3	7
1886-87	1	2	3	2	2	4		3	3	5	1	6	3	1	4	4	3	5
1887-88	2	1	3		1	1	2	6	8	1	1	2	3	4	7	4	1	5
1888-89		1	1	3	2	5	1		1	4	8	12	3	5	8	3	3	6
1889-90	3	2	5	2		2	2	1	3	8	1	9	1	2	3	4	3	7
1890-91	2	2	4	2		3	2		1	2	1		1	2	2	4	2	6
1891-92	3	2	5	2		2	1		2	5	3	8	7	5	12	10	4	14
1892-93					2	1	3	7	2	9	6	6	11	6	5	11	8	13
1893-94	2	1	3	2		2	1	1	2	1	1	2	5	5	10	10	2	12
1894-95	1	3	4	3		3	3	4	7	3	7	10	1	4	5	5	5	10
1895-96	5	5	10	1	2	3	2	1	3	7	2	9	5	9	14	8	5	13
Total	38	30	68	37	25	62	42	41	83	55	62	117	71	70	141	87	88	175

Year.	January.			February.			March.			April.			May.			June.		
	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.	W.	C.	T.
1875-76	1	3	4	3	4	7	3	5	8	2	10	1	1	2	2	2	2	2
1876-77	7	4	11	5	1	6	3	3	6	2	5	2	1	3	2	2	2	2
1877-78	5	2	7	5	1	6	6	2	8	1	4	5	3	4	7	3	1	4
1878-79	6	6	12	4	8	12	5	4	9	3	6	9	2	2	4	2	1	3
1879-80	6	2	8	9	7	16	1	2	3	2	6	8	2	2	2	3	3	3
1880-81	4	2	6	6	6	12	2	5	7	1	1	3	1	4	3	3	3	6
1881-82	7	4	11	5	5	10	7	3	10	6	2	8	1	7	8	4	4	4
1882-83	6	6	12	1	1	2	4	3	7	4	5	9	3	3	6	1	3	4
1883-84	6	10	16	1	6	7	8	1	9	2	3	5	2	1	3	5	3	8
1884-85	10	5	15	7	5	12	6	1	7	3	5	8	1	1	2	5	5	5
1885-86	1	6	7	4	4	8	2	1	3	2	4	6	2	2	2	3	2	5
1886-87	11	4	15	3	3	6	4	2	6	6	5	11	2	2	4	2	2	4
1887-88	8	3	11	5	5	10	4	6	10	2	4	6	2	4	4	2	2	2
1888-89	4	3	7	4	2	6	5	5	10	2	2	4	2	3	5	4	4	4
1889-90	10	7	17	1	2	3	5	3	8	2	1	3	6	3	9	2	2	4
1890-91	3	6	9	2	3	5	10	2	12	22	12	34	4	5	9	3	3	6
1891-92	18	11	29	13	6	19	10	7	17	3	6	9	4	4	8	3	3	6
1892-93	20	6	26	9	8	17	7	6	13	4	4	8	6	6	12	4	1	5
1893-94	5	11	16	6	5	11	11	5	16	3	3	6	2	4	6	2	1	2
1894-95	3	10	13	9	8	17	5	7	12	13	7	20	5	6	11	2	1	3
1895-96	11	12	23	4	5	9	4	4	8	2	3	5	4	6	10	1	2	3
Total	152	123	275	106	95	201	112	77	189	93	87	180	55	66	121	42	43	85

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TABLE XL.—Showing the mean daily dew-point, relative humidity, and the number of deaths from acute lung diseases in each month for fifteen years, from 1882 to 1896, inclusive.

Year.	July.			August.			September.			October.		
	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.
1882.....	64.6	67.8	10	64.8	70.8	13	66.9	74.3	13	53.2	73.4	24
1883.....	63.1	67.1	15	64.6	75.2	17	64.6	77.1	16	53.2	77.9	23
1884.....	64.8	68.9	9	59.6	67.9	15	55.9	74.3	13	49.0	76.9	31
1885.....	63.5	72.3	17	65.1	75.1	10	60.3	69.7	15	47.6	68.3	21
1886.....	65.6	68.8	19	63.7	73.7	12	55.3	71.2	16	47.4	78.6	25
1887.....	64.4	74.4	17	63.9	75.0	24	59.7	73.4	22	46.5	70.0	32
1888.....	69.6	71.9	9	63.0	72.7	8	55.0	83.8	26	42.5	65.9	20
1889.....	63.7	77.0	11	67.1	79.6	19	58.1	83.8	16	43.1	76.8	45
1890.....	67.5	80.4	17	63.5	79.0	12	57.9	81.3	12	43.3	76.5	35
1891.....	63.1	71.2	20	63.8	77.7	31	59.6	81.7	23	46.4	76.4	30
1892.....	62.3	96.7	21	66.2	81.7	18	62.4	82.8	27	43.3	73.5	40
1893.....	66.3	76.5	23	65.1	73.5	25	55.7	74.4	40	42.0	68.0	49
1894.....	63.0	67.0	28	61.2	57.2	14	56.0	76.0	19	46.8	77.0	40
1895.....	64.1	68.0	19	63.4	75.5	20	64.2	76.9	21	47.6	76.2	44
1896.....	62.5	74.8	34	65.4	72.0	20	60.1	72.8	26	37.4	64.4	46
Total.....	968.1	1102.8	269	960.4	1115.8	258	891.7	1142.9	305	689.3	1096.8	505
Mean.....	64.5	73.5	17.9	64.3	74.3	17.2	59.4	76.2	20.3	46.0	73.1	33.1
Year.	November.			December.			January.			February.		
	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.
1882.....	39.7	74.9	39	34.5	76.6	54	27.4	80.9	56	31.5	76.6	74
1883.....	33.6	71.6	39	25.3	67.7	55	24.3	81.6	57	29.0	73.5	56
1884.....	37.6	71.0	42	29.12	75.6	87	23.2	77.9	76	34.2	78.5	71
1885.....	34.6	70.3	40	29.7	79.3	49	24.0	71.0	58	18.6	72.3	88
1886.....	37.7	76.2	33	27.6	69.1	30	23.7	81.4	59	24.8	76.2	66
1887.....	32.9	63.3	39	22.6	73.7	52	22.6	67.9	61	28.6	70.6	56
1888.....	30.3	60.1	37	27.2	69.7	42	21.2	73.6	87	27.8	75.5	76
1889.....	37.9	75.0	37	25.4	68.5	74	28.3	74.3	71	19.6	69.2	79
1890.....	37.8	78.2	44	34.0	72.8	60	32.7	71.7	211	33.0	74.5	94
1891.....	35.5	71.4	41	23.3	70.7	76	27.5	74.5	65	31.9	74.4	60
1892.....	33.5	72.9	44	30.5	69.7	103	22.8	73.2	215	27.0	73.7	145
1893.....	33.7	69.3	59	24.0	74.0	64	15.0	71.0	118	24.0	68.0	112
1894.....	33.5	73.5	47	27.8	71.2	83	29.4	76.6	92	26.2	73.0	89
1895.....	32.1	68.3	41	27.8	75.4	66	24.4	77.0	74	14.0	62.8	104
1896.....	38.2	80.6	75	29.5	74.3	80	23.2	69.4	121	24.7	67.2	116
Total.....	527.6	1076.6	656	418.4	1088.3	975	370.2	1122.0	1,421	394.9	1073.0	1,286
Mean.....	35.2	71.8	43.7	27.9	72.6	65.0	24.7	74.8	94.7	26.3	71.5	85.7
Year.	March.			April.			May.			June.		
	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.	Dew-point.	Relative humidity.	Deaths.
1882.....	33.5	69.3	72	39.3	68.1	57	48.3	70.9	44	60.0	64.5	29
1883.....	25.8	65.9	80	42.1	74.0	50	50.2	65.0	32	62.9	70.1	21
1884.....	33.1	72.9	68	36.6	62.1	55	51.4	66.0	30	61.6	71.4	19
1885.....	24.0	67.0	82	37.7	59.4	83	50.0	68.1	46	62.9	70.1	25
1886.....	32.0	70.8	76	46.9	75.7	72	55.3	80.4	30	64.2	83.2	25
1887.....	23.9	59.6	47	37.1	61.7	54	56.0	69.3	30	59.7	68.0	18
1888.....	27.2	69.4	92	37.3	59.1	52	53.5	74.5	33	61.8	70.0	14
1889.....	31.6	68.2	89	42.3	70.9	55	54.5	73.2	22	62.1	77.2	16
1890.....	28.3	67.2	89	40.1	63.6	65	53.2	72.8	65	66.7	68.9	37
1891.....	28.1	72.8	121	40.6	61.9	245	49.0	68.4	140	61.4	74.0	48
1892.....	26.8	70.1	120	38.7	64.8	64	52.0	69.2	48	66.2	75.0	32
1893.....	28.0	65.0	138	42.0	67.0	81	50.0	68.7	82	66.0	73.0	33
1894.....	35.0	65.6	122	39.2	63.2	76	54.1	69.9	45	61.0	67.6	26
1895.....	27.4	61.6	104	39.8	64.4	85	52.0	72.6	43	63.9	72.3	25
1896.....	27.0	67.0	91	43.4	65.5	79	57.2	72.7	41	61.1	75.4	28
Total.....	422.9	1012.4	1,391	603.1	976.4	1,182	778.8	1060.0	730	937.5	1080.7	346
Mean.....	28.2	67.5	92.7	40.2	65.1	78.8	51.9	70.7	48.1	62.5	72.0	23.1

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TABLE XLI.—Showing the percentage of deaths from pneumonia, bronchitis, and congestion of the lungs; also from total acute lung diseases to total population, and the total deaths therefrom since 1876 to the year 1896, inclusive.

Year.	Total population in each year.	Total deaths from all causes in each year.	Deaths from pneumonia in each year.	Percentage of deaths from pneumonia to total deaths.	Percentage of deaths from pneumonia to total population.	Deaths from bronchitis in each year.	Percentage of deaths from bronchitis to total deaths.
1876	157,600	4,160	423	10.2	2.67	77	1.85
1877	162,375	4,208	350	8.3	2.21	78	1.83
1878	167,300	4,231	337	8.0	2.13	50	1.18
1879	172,377	4,309	406	9.4	2.37	98	2.28
1880	177,658	4,207	328	7.8	1.90	107	2.55
1881	183,060	4,136	328	7.9	1.86	98	2.37
1882	188,653	4,571	320	7.0	1.70	88	1.92
1883	191,980	4,286	314	7.3	1.60	87	2.02
1884	196,490	4,814	317	6.6	1.60	131	2.73
1885	201,110	4,998	354	7.0	1.77	101	2.00
1886	205,840	4,673	286	6.1	1.40	121	2.59
1887	210,680	4,665	251	5.4	1.20	128	2.75
1888	215,630	5,040	323	6.4	1.40	104	2.06
1889	222,830	5,152	331	6.4	1.32	134	2.60
1890	232,460	5,564	416	7.5	1.76	181	3.25
1891	242,520	5,720	517	9.0	2.06	227	3.97
1892	253,010	6,098	527	8.6	2.03	219	3.54
1893	260,800	6,452	475	7.3	1.66	216	3.35
1894	265,600	6,039	424	7.0	1.49	169	2.80
1895	270,514	5,565	413	7.4	1.52	122	2.19
1896	275,500	5,904	500	8.5	1.80	147	2.48
Total and mean	4,453,967	104,792	7,940	7.6	1.78	2,674	2.49

Year.	Percentage of deaths from bronchitis to total population.	Deaths from congestion of lungs in each year.	Percentage of deaths from congestion of lungs to total deaths.	Percentage of deaths from congestion of lungs to total population.	Total deaths from acute lung diseases in each year.	Percentage of deaths from acute lung diseases to total deaths.	Percentage of deaths from acute lung diseases to total population.
1876	0.50	59	1.42	0.31	559	13.5	3.5
1877	.48	44	1.05	.27	472	11.2	2.9
1878	.30	56	1.32	.33	443	10.5	2.7
1879	.67	86	2.02	.59	590	13.7	3.4
1880	.60	74	1.82	.41	509	12.1	2.9
1881	.53	68	1.64	.37	494	11.9	2.7
1882	.46	77	1.70	.49	485	10.6	2.6
1883	.45	69	1.60	.36	470	10.0	2.5
1884	.65	68	1.42	.34	516	10.7	2.6
1885	.50	79	1.58	.39	534	10.6	2.7
1886	.60	56	1.20	.27	463	10.0	2.3
1887	.60	73	1.56	.35	452	9.7	2.2
1888	.46	69	1.30	.30	496	9.8	2.1
1889	.53	69	1.34	.30	534	10.3	2.7
1890	.72	73	1.31	.30	670	12.0	3.4
1891	.90	98	1.71	.39	842	14.7	3.4
1892	.81	131	2.15	.50	877	14.2	3.4
1893	.76	136	2.11	.48	827	12.8	2.9
1894	.59	88	1.45	.31	681	11.2	2.4
1895	.44	115	2.07	.41	680	11.7	2.4
1896	.53	110	1.86	.40	757	12.8	2.7
Total and mean	.58	1,698	1.69	.37	12,321	11.6	2.7

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TABLE XLII.—*Comparative statement of deaths of persons 60 years of age and over, with percentages to total deaths and to total population, for twelve years from 1884 to 1896.*

Year.	Total population.	Total deaths.	Deaths of persons 60 years of age and over, less those by violence.	Percent- age of deaths of those 60 years and over to total deaths.	Number of deaths of those 60 years and over to 1,000 popula- tion.	Number of deaths of all ages to 1,000 of popula- tion.
1884-85.....	201, 110	4, 998	889	17.80	4.4	24.99
1885-86.....	205, 840	4, 674	875	18.72	4.2	22.80
1886-87.....	210, 680	4, 665	860	18.43	4.1	22.21
1887-88.....	215, 630	5, 040	959	19.03	4.2	22.40
1888-89.....	222, 830	5, 152	884	17.14	3.6	20.60
1889-90.....	232, 460	5, 564	966	17.36	3.8	22.25
1890-91.....	242, 520	5, 720	1, 137	19.88	4.5	22.88
1891-92.....	253, 010	6, 098	1, 206	19.78	4.6	23.45
1892-93.....	263, 800	6, 452	1, 292	20.00	5.5	22.64
1893-94.....	265, 600	6, 030	1, 192	19.74	4.2	21.19
1894-95.....	270, 514	5, 565	1, 131	20.32	4.1	20.57
1895-96.....	275, 500	5, 904	1, 174	19.88	4.3	21.43
Aggregate.....	2,856,494	65,871	12,565	19.01	4.3	22.28

TABLE XLIII.—*Comparative statement exhibiting general results of marriages, births, and deaths during the six years ended June 30, 1896.*

Subject.	Year ended June 30—					
	1891.	1892.	1893.	1894.	1895.	1896.
Marriages.....	1,289	1,148	1,424	1,496	2,391	2,237
Births.....	4,344	4,614	4,428	5,042	4,794	4,706
Deaths.....	5,720	6,098	6,452	6,039	5,565	5,904
Death rates.....	22.88	23.46	22.64	21.19	20.57	21.43
Deaths under 1 year of age.....	1,433	1,571	1,770	1,646	1,257	1,523
Deaths under 5 years of age.....	2,070	2,185	2,361	2,222	1,775	2,090
Deaths 50 years of age and over.....	1,635	1,790	1,926	1,917	1,773	1,776
Deaths in institutions.....	1,027	1,142	1,265	1,183	1,147	1,257
Causes of death:						
Measles.....	69	5	10	10	10	70
Scarlet fever.....	14	26	7	14	16	13
Diphtheria.....	164	182	128	172	124	75
Whooping cough.....	30	76	30	74	58	22
Typhoid fever.....	208	183	187	191	187	228
Malarial fevers.....	80	85	50	26	64	84
Meningitis.....	87	88	105	83	88	95
Diarrheal diseases.....	372	476	575	519	300	468
Croup.....	40	39	30	26	17	9
Acute lung diseases.....	842	887	827	681	650	757
Consumption.....	749	714	681	675	671	705
Bright's disease of the kidneys.....	63	69	63	49	38	41
Heart diseases (excluding aneurisms).....	337	345	345	340	368	394
Violence.....	202	222	298	267	248	234
All other diseases.....	2,463	2,701	3,116	2,912	2,726	2,709

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TABLE XLIV.—Mean temperature in the District of Columbia.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1870.....	°	°	°	°	°	°	°	°	°	°	°	°
1871.....	32.6	35.9	48.0	58.2	63.9	73.2	74.0	76.8	62.3	58.1	44.6	34.0
1872.....	31.7	33.7	35.4	56.0	67.4	75.4	81.8	79.0	69.0	65.5	42.3	32.1
1873.....	30.9	34.8	41.8	53.1	63.6	75.1	79.8	74.8	68.0	54.9	40.8	40.5
1874.....	40.8	37.2	44.5	47.6	63.8	77.5	78.9	71.6	70.1	55.9	44.6	39.2
1875.....	29.5	28.8	39.1	48.0	63.6	72.9	77.0	71.9	64.6	53.6	41.0	36.8
1876.....	40.3	36.7	39.4	51.4	64.5	75.8	81.4	75.5	65.2	50.7	45.2	26.5
1877.....	29.4	39.4	41.0	52.9	61.9	73.9	77.8	76.3	66.9	58.6	46.2	41.8
1878.....	33.5	39.8	49.4	58.3	62.5	69.1	80.2	75.0	68.9	57.0	45.4	33.3
1879.....	30.8	31.6	43.5	51.8	65.3	72.9	78.6	73.9	64.4	62.0	45.6	41.1
1880.....	41.9	40.8	41.8	55.5	70.5	73.5	76.7	74.9	67.9	54.9	40.2	29.0
1881.....	27.6	32.3	40.1	50.3	67.0	70.7	77.4	76.5	77.0	62.9	47.5	41.7
1882.....	33.2	40.4	44.1	50.8	59.2	73.8	76.0	73.8	69.1	60.9	42.9	34.1
1883.....	29.6	37.5	37.6	50.9	63.6	74.4	76.8	72.1	65.1	56.9	47.2	36.9
1884.....	29.4	40.9	42.2	50.9	64.4	72.5	74.2	74.2	71.7	59.6	44.7	36.0
1885.....	32.9	26.9	34.5	53.1	62.3	71.4	77.8	73.4	66.1	54.7	45.3	37.5
1886.....	28.9	32.2	42.0	55.5	62.1	69.9	73.9	73.1	69.3	57.6	46.1	30.7
1887.....	32.9	38.9	38.5	51.6	67.9	72.1	80.5	73.2	65.0	55.4	44.9	37.2
1888.....	29.2	35.7	37.5	52.9	62.7	73.0	72.9	73.9	63.2	50.5	45.8	35.2
1889.....	36.8	29.4	42.3	53.2	63.8	69.8	74.2	70.6	65.6	52.2	46.5	45.6
1890.....	44.2	43.4	41.4	53.7	63.8	74.9	75.1	73.5	67.7	56.2	47.8	34.2
1891.....	37.3	41.5	38.5	55.4	61.3	71.4	72.0	74.5	70.2	54.4	43.9	43.1
1892.....	31.7	36.9	37.7	51.5	63.8	76.2	75.7	76.2	66.2	55.0	43.6	33.0
1893.....	24.0	34.9	41.0	54.0	61.6	72.0	77.0	74.7	66.0	56.4	43.6	38.4
1894.....	37.7	35.2	48.6	53.2	64.8	73.7	78.0	73.9	71.4	57.8	43.8	37.4
1895.....	31.6	26.2	41.8	53.8	62.6	74.6	72.7	77.3	72.4	52.1	46.4	46.1

TABLE XLV.—Mean relative humidity in the District of Columbia.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual mean.
1874.....									72.2	68.7	66.1	65.5	66.8
1875.....	73.6	67.2	69.0	65.1	53.7	64.2	70.3	81.8	70.9	70.1	72.0	79.1	69.7
1876.....	68.0	69.6	67.2	59.6	64.7	65.3	64.5	73.2	72.8	68.9	74.1	69.5	68.1
1877.....	74.9	61.9	66.4	63.6	61.7	71.6	71.7	71.3	75.9	74.8	73.2	71.3	69.9
1878.....	76.8	70.4	63.8	63.0	66.6	66.7	69.5	77.3	77.0	71.6	72.4	71.4	70.5
1879.....	72.3	67.0	58.6	57.7	61.7	63.9	60.4	71.9	71.3	67.4	64.3	71.9	65.7
1880.....	74.1	65.3	65.8	55.5	58.5	63.0	65.1	70.8	68.9	67.9	70.5	74.2	66.6
1881.....	77.6	73.4	67.3	66.0	69.3	72.7	67.8	70.9	74.4	72.4	74.9	76.0	72.0
1882.....	80.9	72.6	69.3	68.1	70.9	74.9	67.1	75.2	77.2	78.0	71.6	71.3	73.2
1883.....	81.6	73.5	65.9	74.0	64.9	70.1	68.9	67.9	74.3	77.0	71.0	75.2	72.0
1884.....	77.9	78.5	72.9	62.1	66.0	71.4	72.3	75.1	69.8	68.3	70.3	79.4	72.0
1885.....	71.1	72.2	67.0	59.4	68.1	60.0	68.8	73.7	71.2	78.6	76.2	69.1	69.6
1886.....	81.4	76.2	70.8	61.7	75.7	83.2	74.4	75.0	73.7	70.0	63.3	73.7	74.8
1887.....	67.9	70.6	59.6	61.7	69.3	68.0	71.9	72.8	72.9	65.9	60.1	69.7	67.5
1888.....	73.6	75.5	69.4	59.1	74.5	70.0	77.0	79.6	83.8	76.8	75.0	68.5	73.6
1889.....	74.4	69.2	67.2	69.2	73.2	77.2	80.4	79.0	81.3	76.5	78.2	72.8	75.0
1890.....	71.7	74.5	62.2	63.6	72.8	68.9	71.2	77.7	81.7	76.4	71.4	70.7	72.3
1891.....	74.5	74.4	72.8	61.9	68.4	74.0	96.7	81.7	82.8	73.5	72.9	69.7	75.2
1892.....	73.2	73.7	70.1	64.8	69.2	75.0	76.5	73.5	71.4	68.0	69.3	74.0	71.8
1893.....	71.0	68.0	65.0	67.0	68.7	72.0	67.0	67.2	76.0	77.0	73.5	71.2	70.4
1894.....	76.6	73.0	65.6	63.2	69.9	67.6	68.0	75.5	76.9	76.2	68.3	75.4	71.3
1895.....	77.0	62.8	61.6	64.4	72.6	72.3	74.8	72.0	72.8	64.4	80.6	74.3	70.8

TABLE XLVI.—*Rainfall in the District of Columbia.*

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
1870	2.20	1.99	5.92	1.54	3.45	4.78	6.10	1.59	2.70	1.50	1.57	0.46	37.98
1871	2.23	.93	3.22	1.74	1.43	2.78	.82	5.72	3.92	4.83	2.75	2.49	30.86
1872	3.73	4.69	3.03	3.19	5.21	1.63	4.30	6.83	3.48	5.62	3.02	.97	45.70
1873	1.89	1.84	2.06	5.65	2.82	3.47	2.34	1.71	7.84	.29	2.08	3.51	34.58
1874	1.86	2.65	3.96	2.29	1.01	2.06	3.05	12.93	1.98	1.86	3.95	2.59	41.11
1875	1.68	3.50	5.52	2.43	3.02	4.59	5.12	4.17	10.81	2.99	2.83	1.30	47.96
1876	3.73	1.16	3.58	4.87	2.26	5.92	6.50	2.74	4.93	6.50	7.18	3.22	52.59
1877	4.77	2.54	4.31	3.32	5.27	6.33	8.37	8.89	2.46	5.86	3.03	4.94	60.09
1878	3.13	1.87	1.74	2.39	1.58	3.29	3.36	7.36	1.56	.79	1.10	4.66	32.83
1879	2.51	1.71	5.60	3.81	3.37	3.52	2.25	3.83	3.42	2.31	2.48	4.02	38.83
1880	5.14	4.01	6.61	2.08	1.86	5.71	1.67	1.07	2.19	3.29	2.45	6.12	42.20
1881	7.09	5.09	3.75	2.55	5.00	2.33	4.46	4.44	7.84	.53	1.33	2.38	46.79
1882	3.15	5.08	3.27	4.09	2.50	8.55	4.73	3.30	4.33	2.63	1.19	2.89	45.71
1883	5.59	6.84	7.24	1.86	3.09	6.95	7.39	1.01	.14	1.73	3.42	4.70	49.96
1884	4.46	4.63	1.53	1.71	2.85	3.30	3.03	6.49	2.15	8.69	3.33	2.67	44.84
1885	5.01	4.32	6.41	2.71	10.60	6.75	10.63	2.43	1.79	1.20	2.88	3.44	58.17
1886	2.39	3.42	3.83	3.24	2.50	2.99	3.29	2.34	3.12	1.82	1.83	4.31	35.06
1887	2.99	3.19	4.53	1.89	4.77	3.53	4.47	3.35	6.82	3.27	2.97	3.27	45.00
1888	4.05	2.47	4.20	6.13	10.69	5.01	8.13	3.07	3.88	4.48	6.03	.19	61.33
1889	1.54	4.20	3.65	2.81	4.73	2.02	3.24	5.50	4.22	5.15	.79	3.74	41.59
1890	6.14	4.49	8.84	2.94	3.72	4.61	8.40	4.18	3.12	2.24	1.47	2.80	53.05
1891	5.82	3.64	5.70	4.52	4.07	2.59	5.04	2.7	3.55	.34	3.38	2.82	41.76
1892	1.85	4.25	1.83	3.21	5.41	1.81	1.44	2.32	3.91	4.11	4.30	2.27	36.71
1893	2.14	4.64	.98	3.34	4.03	1.24	2.14	2.00	1.53	3.14	1.52	4.15	32.85
1894	4.42	1.10	2.50	6.26	3.09	4.34	4.50	1.26	1.11	1.94	1.26	2.38	34.16

TABLE XLVIII.—*Statement showing the number of cases of diphtheria reported, together with the number of deaths therefrom, with percentages and by color, during the year ended June 30, 1896.*

Month.	Number of cases reported.	Number of deaths reported.	Cases.		Deaths.		Per-centage of deaths to cases.	Percentage of deaths to 10,000 of population.	
			White.	Colored.	White.	Colored.		White.	Colored.
1895.									
July	5	2	5	-----	2	-----	40.0	0.11	-----
August	15	7	11	4	5	2	46.6	.27	0.22
September	18	5	12	6	3	2	28.0	.16	.22
October	30	10	25	5	9	1	33.3	.47	.11
November	31	7	28	3	7	-----	22.6	.37	-----
December	56	14	47	9	11	3	25.0	.59	.34
1896.									
January	60	9	55	5	9	-----	15.0	.48	-----
February	41	7	38	3	7	-----	17.1	.37	-----
March	29	8	26	3	7	1	27.6	.37	.11
April	15	1	14	1	1	-----	6.6	.05	-----
May	7	2	7	-----	2	-----	28.6	.11	-----
June	19	4	18	1	3	1	21.1	.16	.11
Total and mean..	326	76	286	40	66	10	23.3	3.51	1.12

TABLE XLIX.—Statement showing the number of cases of scarlet fever reported, together with the number of deaths therefrom, with percentages and by color, during the year ended June 30, 1896.

Month.	Number of cases reported.	Number of deaths reported.	Cases.		Deaths.		Per-centage of deaths to cases.	Percentage of deaths to 10,000 of population.	
			White.	Colored.	White.	Colored.		White.	Colored.
1895.									
July	37	2	35	2	2		5.4	0.11	
August	28	1	28		1		3.6	.05	
September	32		28	4					
October	20	2	19	1	2		10.0	.11	
November	34	2	29	5		2	6.0		0.22
December	46	2	44	2	2		4.3	.11	
1896.									
January	27	1	25	2	1		3.7	.05	
February	31		29	2					
March	22	1	21	1	1		4.5	.05	
April	10	2	7	3	1	1	20.0	.05	.11
May	13		12	1					
June	6		4	2					
Total and mean.	306	13	281	25	10	3	4.25	.54	.34

REPORT OF MEDICAL SANITARY INSPECTOR.

SIR: I have the honor to submit the following report of the work done in the scarlet-fever and diphtheria service during the fiscal year ending June 30, 1896.

During this period there have been reported 326 cases of diphtheria, a decrease from last year's report of 92, and a smaller number than during any year since cases have been reported. Of the total number of cases 15.3 per cent were colored, or 4.55 per each 10,000 of population, while among the whites it occurred in proportion of 15.25 to each 10,000.

Number of cases of deaths from diphtheria during the fiscal year 1895-96.

Months.	Cases.					Deaths.					Per cent of deaths to cases.
	White.		Colored.		Total.	White.		Colored.		Total.	
	M.	F.	M.	F.		M.	F.	M.	F.		
1895.											
July.....	2	3			5	1	1			2	40.0
August.....	4	7		4	15	2	3		2	7	46.6
September.....	8	4	2	4	18	3		1	1	5	27.7
October.....	13	12	2	3	30	5	4		1	10	33.3
November.....	15	13		3	31	4	3			7	22.6
December.....	18	29	4	5	56	7	4	2	1	14	25.0
1896.											
January.....	26	29	2	3	60	3	6			9	15.0
February.....	15	23	1	2	41	4	3			7	17.0
March.....	17	9	1	2	29	5	2		1	8	27.6
April.....	8	6		1	15	1				1	6.6
May.....	3	4			7	2				2	28.5
June.....	8	10		1	19	2	1		1	4	21.0
Total.....	137	149	12	28	326	39	27	3	7	76	23.3

I have been impressed with the fact that the colored race seems to have considerable immunity both from this disease and scarlatina. Nor does it seem to prevail among the poorer class of whites, as might be supposed. Instead of becoming epidemic among those who live in overcrowded, unsanitary dwelling, and in the midst of bad hygienic surroundings, it most frequently attacks those who are well cared for and enjoy the luxuries of life.

Since last April note has been kept of the sanitary condition of the dwellings and circumstances of the families in which these so-called "minor contagious" diseases have occurred; and, while not enough data have been obtained for any definite conclusions, I am convinced that filth, overcrowding, lack of closets, and absence of plumbing have nothing to do with its appearance. Out of 163 cases examined only 39 were in poor circumstances, the rest being in moderate or good condition financially. In all but 52 there were good sanitary plumbing arrangements, closets, etc., only 28 using privies. Walls were damp in only 13 cases, and cellars in 8. In a majority of the cases the houses

were modern bricks, with cellars or basements, concrete floors, and modern improvements.

It is now generally accepted that the bacillus of diphtheria first finds lodgment in the mucous membrane of the throat, and there, under favorable conditions, multiplies and produces a toxin or poison, which, absorbed into the general system, produces the constitutional symptoms of the disease, as well as the complications, among the most common of which are nephritis and paralysis. From the apparent immunity of the poor it would seem as though exposure to all varieties of weather, oftentimes with insufficient clothing, produces a condition of the mucous membrane that enables it to withstand the onslaught of the diphtheria bacillus. Among the well-to-do the children are usually kept in rooms that are overheated; are overclothed, especially about the throat; are not allowed to go out when the weather is damp, cold, or hot, and are brought up in such an artificial manner that on the least exposure to dampness or cold an inflammatory condition of the throat is produced, and in the case of exposure to the diphtheria bacillus it readily finds lodgment and soon gives rise to the characteristic symptoms.

The death rate has decreased from 29.6 per cent in 1895 to 23.3 per cent in 1896. This decrease has been unquestionably due in a great measure to the more general use of antitoxin. It seems almost unreasonable for any one to doubt the efficacy of this mode of treatment for the cure of diphtheria at this time, yet there is a large number of physicians who still consider it not only of no avail but harmful. They claim it produces nephritis and paralysis, apparently forgetting that these are the most frequent complications of the disease. They also claim that those physicians who advocate its use only report those cases in which good results are obtained, and do not mention those who die. This can not be said of our statistics, for our record contains the name, etc., of all the cases treated, and we are aware of the result, whether recovery or death.

Number of persons from 1 to 52 years of age treated for diphtheria.

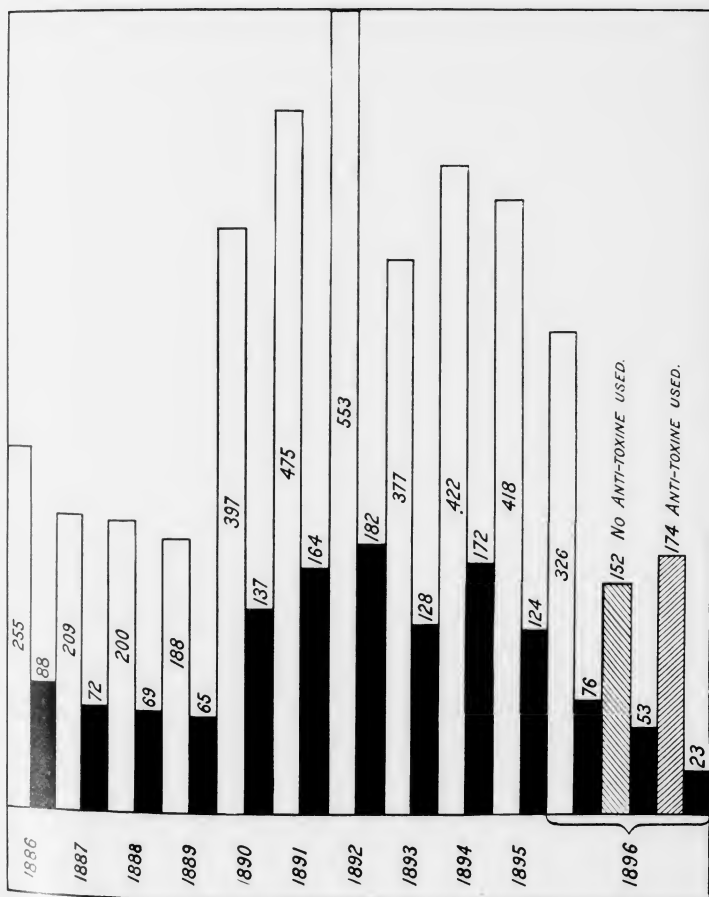
Age.	Total cases treated.	Treated with antitoxin.			Not treated with antitoxin.		
		Number.	Died.	Per cent of mortality.	Number.	Died.	Per cent of mortality.
Under 1 year.....	10	4	2	50.0	6	4	66.6
Between 1 and 3 years.....	64	32	11	34.4	32	27	84.4
Between 3 and 6 years.....	81	59	7	17.9	42	7	16.6
Between 6 and 12 years.....	104	66	3	4.4	38	11	28.9
Between 12 and 18 years.....	28	15	.....	.....	13	1	7.7
Between 18 and 25 years.....	16	8	.....	.....	8	1	12.5
Between 25 and 50 years.....	22	10	.....	.....	12	1	8.3
52 years.....	1	.....	.....	.....	1	1	100.0
Total.....	326	174	23	13.2	152	53	34.9

General mortality after use of antitoxin, 13.2 per cent.

General mortality where antitoxin was not used, 34.9 per cent.

By referring to the above table it will be seen that 174 cases were treated with antitoxin, with 23 deaths, a mortality of 13.2 per cent, while of 152 cases not so treated 53 died, giving a mortality of 34.9 per cent, which has been about the average mortality for the past five years. The percentage, 13.2, could be still further reduced did we eliminate those cases in which the use of antitoxin was commenced quite late, several of which were moribund when the serum was injected. But considering them all, favorable and unfavorable, we still

Chart showing the cases and deaths from diphtheria for the last ten years.



have a much lower rate of mortality than by any other method of treatment that has been pursued.

It will also be seen that the mortality decreases as the patients are older. It will be noticed, too, that while the death rate among children under 3 years is high in all cases, it was much lower among those in which serum was used than those where it was not. The greatest difference is between the ages of 6 and 12. There we have a mortality of 4.4 per cent against 28.9 per cent in whom the serum was not used. There were 33 cases over 12 years of age injected with antitoxin without a death, while among 34 not so treated 4 died. Through the continued courtesy of Surgeon-General Wyman and of P. A. Surg. J. J. Kinyoun, of the Marine-Hospital Service, we have been enabled to produce a sufficient quantity of antitoxin for use among the poor, and it has been used with remarkably good results.

The decrease in the total number of cases reported has been due, aside from the use of antitoxin, to more strict attention by the inmates of infected houses to isolation and disinfection and to the fact that a much larger number of physicians are depending upon a bacteriological examination to complete their diagnosis and to demonstrate the absence of the diphtheria bacillus before allowing the patient to leave his room.

Dr. Parker has examined since September last, for purposes of diagnosis, 593 cultures, 216 (34.4 per cent) of which only showed the presence of the germ. Many of these without such examinations would have been reported to the office as diphtheria. On the other hand, some of those found by cultures to be diphtheria without an examination would have been treated as simple sore throats or follicular tonsillitis. Such cases of so-called "bacteriological diphtheria" are the ones that escape the notice or attention of the physician and render it impossible to eradicate the disease entirely. Several cases have been traced to persons who had the bacilli in their throats and suffered nothing more than a slight inflammation of the mucous membrane, which disappeared in a day. They were immune for the time being themselves, yet conveyed the disease to others. As an illustration the following is cited: Two cases of diphtheria occurred among the children of a family. These children were too young to attend school and had not been away from home for weeks. On inquiry I learned that an older girl attended a school in which several cases had occurred, and that about ten days previous she had had a slight sore throat, which the doctor pronounced not serious, and it disappeared in a day. A culture taken from her throat showed the presence of the Klebs-Loeffler bacilli. She did not present any symptoms of the disease, but had conveyed the infection to the others, one of whom died.

If physicians generally were more ready to admit this condition and would take cultures from all the sore throats that come under their care, the number of cases occurring during a year could be materially decreased. There is a very great objection on the part of many physicians to calling these cases diphtheria, on account of the absence of symptoms and because if they are reported to the health office a placard will be put on the house. They have great difficulty in making the patient and his friends understand the condition, and to avoid unpleasantness refrain from taking cultures, and the patient is allowed to go about the city spreading disease broadcast. It would be better, I think, if the health office would make it the rule not to placard the premises of such cases, but to send an inspector to give them directions regarding isolation and disinfection. By this method we could control many of the cases that are now walking about the city.

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The use of sulphur as a disinfectant in cases of diphtheria has been abandoned, experiments having shown it to be of no effect in preventing the growth of the diphtheria bacillus. For disinfection after cases of this disease we are relying on the bichloride of mercury for floors, woodwork, furniture, unpapered walls, etc., steam under pressure for mattresses, pillows, and those articles that can not be soaked in the solution of mercury, and formaldehyde for papered rooms, books, etc. A solution of formaldehyde in water known under the trade name of formol and folmaline for disinfecting rooms is used as follows: The room is made as tight as possible by closing all outlets, pouring the solution in shallow vessels, setting them about the room, and leaving it for not less than three days, and as much longer as possible, or the solution may be poured upon a cloth which is hung up in the room. Formaldehyde is the disinfectant of the future, and we are looking for some means by which it can be made effective in a shorter time.

Up to March 23, 1895, the families of the infected premises bore the expense of steaming their goods, which was done at a private establishment. Then this department paid for the work at the same place up to March 24, 1896, when the plant provided by an appropriation from Congress was installed and placed in running order.

A laboratory for the examination of diphtheria cultures has been established at the health office during the past year.

Since it has been in operation, Dr. E. M. Parker, the bacteriologist, has made examinations of 1,022 cultures, 593 of which were primary, for the purpose of diagnosis. Of the 593 cultures, 377 were rejected as not containing the diphtheria bacilli. Examinations numbering 429 were made for determining the time for relieving the patient from quarantine. While in most cases the bacillus is found to be absent in from ten days to three weeks after the disappearance of the membrane, in many it persisted for five or six weeks and even longer. For this reason the quarantine period of four weeks from disappearance of the membrane is dangerous. It would be better to make all cases depend on a bacteriological examination.

Schoolbooks are a great source of danger in the dissemination of disease. In the lower grades it is the custom to distribute books each morning, so that a child does not use the same book from day to day. I would recommend that this method of distributing the books be changed. The pupil should use one set of books the entire term, and before being reissued, they should be disinfected. It would also be of advantage to abolish the use of the slate in the schools, substituting for it paper and lead pencils. The method used by pupils for cleaning their slates is very filthy and a prolific means for the dissemination of contagion. All schools should be disinfected at least twice a year—once during the summer vacation, and again during the Christmas holidays. During these seasons the buildings are closed, fresh air and sunlight kept out, and, the temperature being favorable, any germs that may be present have a good opportunity to propagate. The rush and bustle of pupils returning to school stirs them up, and they may find lodgment in susceptible persons and produce trouble.

It would, in my opinion, be of great benefit if the schools were furnished with medical inspectors, whose duty it should be to visit the schools each morning to examine the children, and to send home such as might be found sick and unable to pursue their studies without detriment to their health, to receive medical attention. The chief duty of such inspectors should be, however, to examine any sore throats that might occur, take a culture from them, and exclude the child until an examination proved the case to be noncontagious. Until some such

system as this is established the teacher should be instructed to send home any pupil found to be suffering with a sore throat, and not allow him to return without a certificate from a physician or the health office that a bacteriological examination shows it not to be diphtheria.

Several small groups of cases of diphtheria have been traced directly to children who have died of membranous croup, according to the physician's certificate, but which proved on a bacteriological examination to be true diphtheria. Many cases of death from this cause have been investigated during the year and in not one was there failure to find the bacillus of diphtheria.

Of scarlatina there were reported 306 cases, 13 of which died. Only 25 of the cases and 3 of the deaths were among the colored portion of our population. One of these deaths was that of a woman who was taken with the disease during confinement and died of puerperal septicæmia, and another that of her infant who died of nephritis.

Number of cases and deaths from scarlatina during the fiscal year 1895-96.

Months.	Cases.					Deaths.					
	White.		Colored.		Total.	White.		Colored.		Total.	Per cent of deaths to cases.
	Male.	Fe. male.	Male.	Fe. male.		Male.	Fe. male.	Male.	Fe. male.		
1895.											
July.....	17	18	2	.....	37	1	1	.....	.....	2	5.4
August.....	10	18	.....	.....	28	.....	1	.....	.....	1	3.6
September.....	12	16	2	2	32	.....	.....	.....	.....	.....	.....
October.....	8	11	.....	1	20	1	1	.....	.....	2	10.0
November.....	13	16	1	4	34	.....	.....	.....	2	2	5.9
December.....	22	22	1	1	46	2	.....	.....	.....	2	4.3
1896.											
January.....	11	14	1	1	27	1	.....	.....	.....	1	3.7
February.....	18	11	1	1	31	.....	.....	.....	.....	.....	.....
March.....	6	15	.....	1	22	.....	1	.....	.....	1	4.5
April.....	4	3	1	2	10	.....	1	1	.....	2	20.0
May.....	5	7	.....	1	13	.....	.....	.....	.....	.....	.....
June.....	3	1	2	.....	6	.....	.....	.....	.....	.....	.....
Total.....	129	152	11	14	306	5	5	1	2	13	4.2

Number of cases and deaths from scarlatina by ages.

Age.	Number of cases.	Number of deaths.	Age.	Number of cases.	Number of deaths.
Under 1 year.....	6	1	Between 12 and 18.....	30	.....
Between 1 and 3.....	58	5	Between 18 and 25.....	8	1
Between 3 and 6.....	77	3	Over 25 years.....	6	.....
Between 6 and 12.....	121	3			

The disease has not assumed a severe form, as is shown by the low rate of mortality, 4.2 per cent, which is slightly below the average for the past five years. It has been of so mild a character that many cases have entirely escaped notice. I have been able to trace several cases to what was thought to be heat eruption.

The same precautions are taken to disinfect after scarlatina as diphtheria, and in the same manner, except that sulphur is still used to fumigate the rooms.

Respectfully,

JOHN E. WALSH, M. D.,
Medical Sanitary Inspector.

DR. WILLIAM C. WOODWARD,
Health Officer, Washington, D. C.

REPORT OF THE CHEMIST.

SIR: I have the honor to submit the following report relative to the work performed in the chemical laboratory during the fiscal year ending June 30, 1896.

During the year I have made 831 analyses, which may be classified as follows:

Milk	479	Butter	9
Whisky	46	Water	242
Gin	35	Miscellaneous (including 8 for police	
Wine	4	department)	16

Of this number, 237 samples were referred to this department by private parties and other departments of the District government, while the remainder were collected either by inspectors of this office or by myself.

SPIRITUOUS LIQUORS.

The examination of liquors was undertaken at the instigation of the excise board of the District, and was intended to develop information as to whether or not liquors, as sold over the bar in this city, were adulterated to any extent with injurious substances. Considerable time was therefore spent in these examinations, the process of analysis being slow and requiring the greatest degree of skill in the manipulation in order to secure accurate results. In many instances examinations were made in duplicate in order to insure accuracy.

In all some 1,300 samples were collected by the excise board and turned over to this department. Two barrels out of seven containing that number were made up principally of pint samples, representing, as I was informed later, mostly wholesale houses, while the remaining five barrels were made up mostly of half-pint samples or less.

The majority of the analyses were made from the samples contained in the pint bottles, as the half pints were found to be too small for satisfactory work. Many of the samples were found also to be freely impregnated with dirt, flies, straw, sticks, etc., which, while perhaps representing the condition in which the liquor was sold, would at the same time indicate carelessness rather than any attempt at adulteration.

The analyses included the determination of alcohol, extract, fusel oil, and the search for adulterants. The determination of alcohol and extract was made according to the usual method. The fusel oil determination was made according to the Roesse method, with a slight modification of the apparatus as used by him. The method and principle upon which that method is founded is as follows: It is a well-known fact that chloroform possesses the property of taking up, from a solution of the fatty alcohols in dilute alcohol, the higher members of the series more easily than the lower ones. This follows from the fact that the solubility of alcohols in water or dilute alcohol decreases with the increasing carbon content, while all of them are soluble in chloroform in all proportions. Consequently we would expect a much larger increase in the volume of the chloroform when shaken up with dilute amyl alcohol than with dilute ethyl alcohol.

Likewise, we would expect a larger increase in the volume of the chloroform when shaken up with a mixture of dilute ethyl and amyl alcohol than we would with the dilute ethyl alcohol itself. Therefore, if the point of saturation of the chloroform for dilute ethyl alcohol is determined, any increase in volume above this point when shaken up with the same volume of spirits of wine of the same specific gravity and temperature must be due to the higher members of the fatty alcohol series, which higher members constitute our fusel oil. It is of course of the utmost importance that the same volumes, temperature, and specific gravity be maintained, since the relative increase in the volume of the chloroform is dependent upon these principles. In other words, the saturation point of a given volume of chloroform for the distillate from liquors must be determined with exactly the same volume and with exactly the same temperature and specific gravity as was observed when the saturation point of chloroform for dilute ethyl alcohol was determined.

The apparatus for this determination consists of a pear-shaped bulb with ground-glass stopper, holding about 175 c. c., from the lower end of which extends a tube about 175 mm. long, holding 2 c. c., each of which is divided into 1-50 c. c. The lower end of this tube is blown out into a cylindrical form, terminating with a stopcock and capillary tube, the whole being about 75 mm. in length. When the stopcock is closed, the cylindrical form holds exactly 20 c. c. up to the first mark graduated on the lower part of the stem. The modification of this apparatus consists in the stopcock and capillary tube, which allows the chloroform to be sucked up to the 20 c. c. mark, thus insuring accuracy of measurement and expedition of the manipulation, as it is important that the chloroform should not wet the walls of the graduated stem. One hundred cubic centimeters of the liquor under examination are carefully weighed out, at a temperature of 15° C., into a distillation flask, one drop of caustic soda solution added, and the whole distilled until at least four-fifths of the liquid has distilled over.

The distillate is then made up to 100 c. c. with distilled water, and its alcoholic content determined by means of its specific gravity. Fifty cubic centimeters of the distillate is then placed in a 100 c. c. flask, and as much distilled water added as will dilute it to exactly 30 per cent by volume of alcohol.

This can be approximately accomplished by means of the Brix dilution table, or by the formula of Frenkel or Herneschen. (Table of Brix is appended.) The formula of Frenkel and Herneschen is as follows:

$$x = \frac{100 (p - p^1) a}{p^1}$$

in which x =amount of water to be added; p =per cent by weight of the alcohol in the original 100 c. c.; p^1 =the desired per cent by weight; a =the specific gravity of the original spirits.

As x equals the amount that must be added for each 100 c. c. of distillate, the result must be divided by 2 when only 50 c. c. are used. This dilution should now be accurately accomplished by means of its specific gravity, which should be 0.96541 at 60° F. This having been done, the flask is filled up to the 100 c. c. mark with 30 per cent alcohol by volume, having a specific gravity of 0.96541. It is essential that this dilute alcohol should be absolutely free from fusel oil. Twenty cubic centimeters of redistilled and fractional chloroform at 15° C. are now sucked up into the apparatus, previously cooled to 15° C., the 100 c. c. of the

30 per cent by volume alcoholic distillate poured into the bulb, 1 c. c. of pure sulphuric acid of density 1.286 added, and the whole placed in a large jar of water maintained at a temperature of 15°C . After the apparatus and its contents have cooled to the above temperature the point at which the meniscus of the chloroform stands is noted, which should be at the 20 c. c. mark. The apparatus is then inverted and the chloroform allowed to flow into the bulb, where it is shaken vigorously for about two minutes. The cork is then carefully removed, to allow excess of pressure to escape, after which it is again inserted and the apparatus laid on its side, in order to facilitate the gathering together of the chloroform globules.

The apparatus is then placed upright in the cooling jar and allowed to remain until the contents of the apparatus have cooled to 15°C ., which usually requires about fifteen or twenty minutes. Any globules remaining on the surface of the liquid may be made to sink by revolving the apparatus rapidly between the palms of the hands. After the apparatus and contents have cooled sufficiently, the increase in the volume of the chloroform is read off. This must be compared with the increase in the volume of the chloroform when treated in the same manner with pure 30 per cent by volume alcohol, and the relative increase noted. This result, multiplied by 2, will give the increase for the 100 c. c. of the liquor used. By means of the appended table the percentage of the fusel oil can then be determined. Inasmuch as the solubility of dilute alcohol in chloroform differs according to the character of the same, the basis of each new lot of chloroform must be determined. This applies likewise to each new piece of apparatus used.

A simple method for the detection of fusel oil in liquors, and which was used for comparison, was adapted from the permanganate method of M. E. Barbet for the determination of the purity of alcohol. This method is based upon the time it takes an alcohol to decolorize a solution of permanganate of potash to the same shade as that of a standard solution. The standard solution is prepared by mixing in a 50 c. c. flask 2 c. c. of a solution of fuchsine containing one one-hundredth gram of the substance to the liter, with 3 c. c. of a solution of neutral chromate of potash, containing five-tenths gram per liter, and adding enough water to make 50 c. c.

To carry out the operation, introduce into a 100 c. c. flask 50 c. c. of the alcoholic distillate to be examined, which should previously have been brought up to 50 per cent¹ by weight by the addition of pure alcohol. This is brought to a temperature of 18°C ., and then with a pipette 2 c. c. of a solution of permanganate of potash, containing two-tenths of a gram per liter, are quickly introduced into the flask. Note the time to the second, and then place alongside the standard in a crystallizing dish full of water, placed upon a sheet of white paper. Then note the time required for the original solution to become identical in color with the standard.

While I was unable at the time to investigate this method thoroughly, yet it was noticed that there was a difference in time required to bring the original to the same shade of color as the standard, depending on and varying according to the amount of fusel oil in the sample.

A few tests were also made with Squibb's absolute alcohol and ordinary 95 per cent alcohol. Here, however, the results appeared somewhat contradictory, as Squibb's alcohol required only two minutes to

¹Mr. Barbet, in the examination of alcohols increased the strength, if necessary, to from 94° to 96° .

reach the required shade of color, and was entirely decolorized inside of four minutes, whereas the 95 per cent alcohol required just double that length of time to bring about the same results.

Mr. Barbet has obtained, however, with various commercial alcohols the following results:

Alcool pur	43	30
Alcool très bon extra-fin	10	05
Alcool extra-fin	5	02
Alcool semi-fin	0	10
Alcool moyen goût de tête	0	05
Alcool médiocre	0	11
Alcool moyen goût de queue	0	12

One of the most common adulterants of all fluid substances where it can be used is water, and that this substance plays an important part in the adulteration of liquors was clearly shown by the analyses.

It is to the fusel oil, however, that we must turn our serious attention, as it is this substance that is undoubtedly the cause of the evil effects produced on the system through the use of liquors, aside from those effects usually caused by overindulgence in alcoholic stimulants. Fusel oil is a mixture of propylic, butylic, and amylic alcohols, which is always present in the product of alcoholic fermentation, and is an active, irritant poison. Therefore, whenever whisky or other spirituous liquors are distilled, this substance will be found in the distillate unless the greatest care is observed in the process of distillation, and the latter portions of the distillate particularly will be rich in fusel oil.

Consequently, if this latter portion of the distillate is placed on the market, it must necessarily be diluted with water before it would be safe to use. This having been done, we get a cheap whisky, but one at the same time that has all the burning properties necessary and one which undoubtedly produces a crazing effect on the mind.

Fusel oil should therefore be regarded properly as an adulterant, when present in excess of a given amount, which amount should be regulated by law. A good whisky should not contain, in my opinion, more than one-tenth of 1 per cent of fusel oil, and in no case should it be allowed to exceed two-tenths of 1 per cent. Recently this subject has been investigated by several of the States, whose results and conclusions have coincided with those of this department.

Two lots of so-called knock-out drops, three samples of wine, one of calisaya bitters, and one instantaneous insect exterminator were analyzed for the police department.

The knock-out drops were in each case found to be mixtures containing large quantities of chloral hydrate, while the wines and bitters were found to be on a par with other wines sold in the city, so far as their alcoholic content was concerned.

The analysis of the insect exterminator showed it to consist of ordinary clay, with no properties whatever of the character alleged. Considerable quantities of this substance were sold in this city and elsewhere, but the manufacturer of this powder has now retired from business.

As illustrating a fraud of a slightly different nature, I would mention that a sample of a so-called refrigerating salt was brought to me for analysis. This purported to be a newly discovered compound, and manufactured only by the firm whose name appeared on the advertisement. This circular also set forth the idea that this compound was discovered by the observation of the new fever-reducing compounds, while at the same time the salt was perfectly harmless and cost but 5

cents per pound. The idea was that this compound, when placed in a receptacle within the ice box, would save half the ice bill. With this idea in view, I learned it was being extensively used by market men and others in the city.

The analysis of the compound showed it to be the sulphate of soda or glauher salts, a compound which has been known for years. This fraud differs from the other in the fact that this compound actually does possess refrigerating properties, but that it was discovered in the manner claimed or has any properties as a refrigerating salt not previously known is entirely false.

Another class of fraud was also brought to my attention by one of the inspectors of this department. Several sausages were brought to me which on first sight appeared to be what is commonly known as smoked sausage. An investigation disclosed the fact, however, that they were not smoked at all, but were dyed to represent smoked sausage. On treating them with water the coloring matter was easily extracted. In this instance the sausages had received an overdose of the dye, and the meat of the sausage was, therefore, badly permeated with the red coloring matter.

Numerous other instances of efforts to deceive the public by pleasing the eye at the expense of the stomach have been observed, which, however, owing to a press of other work and to a lack of any definite law governing the same, I have been unable to investigate.

The subject, however, of the sophistication of food products is an important one, and one which should receive our earnest consideration.

To be sure, in many instances this practice can not be considered as injurious to health. But where is the line to be drawn? So long as the "original package" decision exists State enactments are of little value. Federal enactments only can solve the difficulty and relieve us from the danger with which we are threatened, for this sophistication is not confined to ordinary articles of diet, but even extends to the so called medicinal foods, thus preying upon not only the strong and healthy, but also the weak and sickly.

As an illustration of this I would submit the following from the Connecticut Agricultural Experiment Station report for 1887, pages 105-106:

IMPERIAL GRANUM.

CCLXXIX, as described by the proprietor, imperial granum, the great medicinal food.—This justly celebrated dietetic preparation is in composition principally the gluten derived by chemical process from very superior growths of wheat—a solid extract—the invention of an eminent French chemist. It has acquired the reputation of being an incomparable aliment for the growth and protection of infants and children; the salvator for invalids and the aged, etc.

	Imperial granum.	Wheat flour (average of 25 analyses).
	<i>Per cent.</i>	<i>Per cent.</i>
Water	11.10	12.56
Ash .....	.33	.56
Albuminoids, including gluten	10.13	11.28
Fiber .....	.10	.27
Nitrogen, free extract	77.58	74.13
Fat .....	.82	1.20
Total	100.00	100.00
Cost per pound	\$1.00	\$0.025

The imperial grannum contains 77.24 per cent of wheat starch, with possibly some dextrin. The quantity of dextrin and dextrose is not more than 1.8 per cent.

The only wide difference between the figures given above for grannum and wheat flour is in the cost per pound. The grannum can not be distinguished in chemical composition and properties from wheat flour slightly burned, which, cooked as a porridge, has long been used and prized as a food for infants and invalids. It does not consist of the gluten of wheat, and is in no respects superior as food to good wheat flour.

As showing the character and extent of this sophistication and adulteration of food products, I will conclude by quoting from Mr. Alex. J. Wedderburn, in his report on the "Extent and character of food and drug adulteration:"

Adulteration in our food, our drugs, and drinks exists to a very great extent in every State. In previous bulletins, Nos. 25 and 32, the writer has claimed from data at hand that the extent of adulteration is not less than 15 per cent, and he is still convinced that this is rather below than above the mark. Of this amount probably only 2 per cent is of an injurious character to health, but when we remember that to furnish 65,000,000 people with food, drink, and drugs costs not less than \$6,760,000,000 (allowing the average cost per capita to be only \$2 per week), we find by calculation that the amount of adulteration reaches the immense sum of \$1,014,000,000 annually, and as the population increases each year so will increase this constant drain upon the resources of the people.

It may be said that a large proportion of this is simply a deterioration, and that the purchaser gets value for his money and is benefited by the reduced price.

Were this true the loss still falls upon the producer of the genuine article, and it must be recollected that at least 2 per cent of the whole is of a character deleterious to health, which amounts to the sum of \$135,200,000 as the annual amount paid by the American people for having their lives taken or their health injured. (United States Department of Agriculture, Bulletin 41.)

Several so-called disinfectants have also been analyzed by this department, one of which was found to consist only of crude camphor oil. No disinfecting properties could be attributed to it, although it gave off a powerful odor and was therefore supposed and claimed to be a powerful deodorizer and disinfectant. Another compound for which considerable virtue as a disinfectant was claimed was found to consist solely of naphthaline colored green with an aniline dye. This compound has been used for a long time as a moth exterminator, but as a disinfectant I know of no properties that can be attributed to it. This is the substance from which our ordinary moth balls and powder are made and which even for this purpose acts more as a preventive than a cure, the moth preferring not to enter clothing where this substance is employed.

In order to secure good results, we should know, first, what we wish to do and, second, the best method by which this can be accomplished. This can not be done by using patent preparations, a knowledge of whose ingredients is denied the public. It is advisable, therefore, when purchasing disinfectants to purchase only those having a known and guaranteed formula, and avoid by all means pleasant-smelling compounds. Those compounds that are pleasing to the sense of smell seldom have any disinfecting properties, and there is every reason to believe that they do more harm than good by masking the true situation.

WATER.

The examination of water, as heretofore, has been confined mostly to the analyses of waters from the public wells and from private wells in the suburbs.

Of recent years, owing to the general opening up of the suburbs, a great many new wells have been dug in those localities which have furnished water of a variable character to the inhabitants. In a great

many instances these wells, as shown by the analyses of their waters, have been improperly dug, the owners apparently being content merely to fill their wells with water, regardless of quality. These waters are contaminated, almost without exception, with more or less surface drainage; in some cases not to the extent that would render them dangerous, while in others they are derived almost entirely from this source, showing that the wells are either too shallow or that they have not been properly sealed.

Surface drainage is a general term; more properly, it should be divided into surface and subsurface drainage. When applied to wells, the former term indicates the water that is drained from the surface of the earth, while the latter would indicate the drainage from the soil below the surface at a comparatively shallow depth. In either case the water leaching through the soil forms channels on the outside of the brick or cement work and runs downward into the well so rapidly that there is little or no chance for its purification. One cause that contributes to this result is the condition of the soil, while another is undoubtedly the short distance the water has to travel before finding an entrance into the well.

Were the wells dug deeper and properly filled in and cemented on the outside this condition of affairs would not be so apt to occur. The reasons are evident. In the first place the water does not find ready channels, as it were, to conduct this drainage into the well, while in the second, by going deeper, the chances are increased of reaching a spring and thus securing a swifter flow. Unlike shallow wells, in which there is practically no flow and wherein the surface water remains until pumped out, in the deeper wells the swifter flow is constantly removing any drainage or foreign matter that may by chance have found its level in the water of the well.

Out of 109 samples of water examined for private parties, 35 were condemned, 4 were found to be suspicious, and 11 were recommended to be cleaned. In all 50 samples, or nearly 50 per cent of the number examined, were found in an unfavorable condition. One hundred and twenty-two samples from the public wells were examined, of which number 14 were condemned, 2 were found to be suspicious, and 2 were recommended to be cleaned. Two samples from cisterns were condemned and 1 reported suspicious.

MILK.

As stated in the summary, 479 samples of milk were analyzed by this department, of which 151 were taken upon their arrival at the Baltimore and Ohio depot, representing the milk as supplied to this city by the producers in Maryland, 86 samples were taken upon their arrival at the Baltimore and Potomac depot, representing Virginia's contribution to our milk supply, while 226 samples were collected about the city, representing, in part, the milk as delivered to the consumer.

I say in part, because the law does not allow samples taken for analyses to be drawn from the bottom of the can, as is done in many instances when served to the public by the dairymen in this city, with the result that every amount so drawn for the customer leaves the remaining fluid just so much the richer, so that in case the inspector comes along and dumps the milk from one can to another once or twice, as required by law, he is bound to get a better sample than was previously served to the consumer.

In case the inspector does not come along there is nothing to prevent the milkman from continuing in the same manner to serve the public

with good skim milk until there remains nothing but cream in the can, after which he can proceed to dispense this for double the money or take it home and make butter of it, as he sees fit.

Section 9 of "An act to regulate the sale of milk in the District of Columbia, and for other purposes," requires—

That no dealer in milk, and no servant or agent of such a dealer, shall sell, exchange or deliver, or have in his custody or possession with intent to sell, exchange, or deliver, milk from which the cream, or any part thereof, has been removed, unless in a conspicuous place, above the center or upon the outside of every vessel, can, or package thereof in which milk is sold, the words "skimmed milk" are distinctly marked in gothic letters not less than 1 inch in length.

Curiously enough, many of the dealers have failed to comply therewith on the ground that they deal only in whole milk, and therefore have no use for a can so labeled. The fact of the matter is there is nothing to prevent them from drawing a sample of fairly good skim milk or a poor quality of so-called good milk from the bottom of the can, or dipping cream from the top of the same can, as the occasion demands. Nor would there be much danger of detection, as the loss in one direction would practically compensate the loss in the other, and an analysis of the thoroughly mixed milk remaining in the can could easily reach 3 per cent fat, as required by the law.

Of the 151 samples of milk collected at the Baltimore and Ohio depot 13 were found to contain less than the legal requirements of 3 per cent fat and 12 per cent total solids, of which number 5 showed evidence of having been watered, 1 of having been skimmed, and the remainder of having been both skimmed and watered.

Of the 86 samples collected at the Baltimore and Potomac depot 3 cases were found below the legal requirements, 2 of which were skimmed and 1 watered.

Of the 221 samples collected about the city 40 were found below the legal requirements, all of which had been tampered with in one way or another. The averages of the samples collected at the Baltimore and Ohio depot were 3.58 per cent fat and 12.54 per cent solids. Those collected at the Baltimore and Potomac depot showed an average of 3.9 per cent fat with 12.98 per cent solids, while those collected about the city showed an average of 3.47 per cent fat with 12.40 per cent solids.

This does not include 22 samples of skimmed milk which were collected and which were sold by the dealers as skimmed milk.

About a dozen samples were collected from dealers in Anacostia, the average analysis of the milk being 4.1 per cent fat and 13.08 per cent solids.

Thirty cases for alleged violation of the milk law were taken into court. In 15 of these cases fines were imposed, personal bonds were accepted in 3, collateral was forfeited in 3, and the remainder dismissed. In the majority of cases in which prosecutions were brought the samples of milk had been collected from grocery stores, lunch and dining rooms. The analysis in most cases showed that the milk had been skimmed and then sold for whole milk. As no signs were displayed to the effect that the milk had been or was skimmed, as required by section 9 of the act, the misdemeanor was charged under that section. The court held, however, that in the case of lunch and dining rooms the proprietors had committed no offense against the law, as they were not dealers in milk, nor did they even sell milk when it was served incidentally with meals.

One of the worst samples of milk that it has been my fortune to come across was taken from one of these dining rooms. The case was taken

into court and dismissed for the reason as stated above. In view of this decision by the court, no further attempts were made in this direction, so that under the present law dining rooms and lunch houses are at liberty to serve anything in the shape of milk they see fit, providing it is served with meals. In this particular the law evidently needs to be modified somewhat, as it is just as important that wholesome milk shall be served with meals as it is that it should be served at all, and it is just as important that pure and wholesome milk shall be served to those who are dependent upon dining rooms for their meals as it is to those whose good fortune it is to take their meals at home.

The average analysis of the milk as it comes into the city gives us an idea as to what the people are entitled to in the line of milk, the general average being 3.74 per cent of fat and 12.76 per cent of solids. This we regard as an average milk, whereas milk that fails to reach 3 per cent fat and 12 per cent solids can not be regarded otherwise than as adulterated.

While enough figures have been cited at different times to show that milk from a healthy herd of cattle which falls below 3 per cent of fat has either been skimmed or watered, yet I desire to add a few more statistics in this line of analyses of milk made by the Aylesbury Dairy Company.

In 1892 the result of 13,196 analyses showed an average of 3.91 per cent fat and 12.71 per cent solids.

The records for 1894 show 28,455 analyses with an average composition of 3.86 per cent fat and 12.67 per cent solids, while the record for 1895 shows 11,081 analyses with an average of 3.83 per cent of fat and 12.65 per cent of solids. In all we have a total of 52,732 with an average of 3.87 per cent of fat and 12.67 per cent solids.

For the year 1895 the average of the morning's and night's milk is also given, which is as follows: Morning's milk, 3.64 per cent fat, 12.47 per cent solids; night's milk, 4.03 per cent fat, with 12.84 per cent solids.

The author also adds that in no case did the mixed milk from any farm fall below 3 per cent of fat.

These figures still further assist us in reaching a conclusion as to the character of the milk we ought to receive.

There is another important feature of the above that we must not overlook, namely, that the night's milk is considerably richer on the average than the morning's milk.

The New Hampshire station report for 1890 likewise shows that during the winter months the night's milk is the richer, while during the summer months the reverse is true. An instance is given of a Jersey cow that showed during the months of June, July, and August an average of 6.26 per cent fat in the morning's milk and 5.75 per cent in the night's, while during the months of January, February, and March the average was 5.81 per cent fat for the morning's milk and 6.30 per cent for the night's.

Some idea of the cost of producing milk and the net profits derived therefrom may be obtained from the following: An investigation carried out at the New York Experiment Station on six herds of cattle shows the relative cost of food per pound of milk. In only one herd does this exceed 1 cent per pound, and that in the case of a herd of Jerseys during the first period of lactation, during which period the cost is 1.127, while in the second period it falls to 0.966 of a cent. Other investigators have practically confirmed these results, so that, generally speaking, we can estimate the actual cost for the production of milk at about 8 cents per gallon. Add to this the cost of transportation,

at the rate of from 2 to 3 cents per gallon, according to distance, and we raise the price of the milk to 10 or 11 cents per gallon.

When we consider that the farmer receives only from 10 to 12 cents per gallon for his milk during the summer, and from 14 to 16 cents during the winter, to say nothing of the times he fails to collect his dues, it will be seen that the actual cash profit is not very large.

A method by which the milk becomes deteriorated, in some instances, before reaching the consumers, is the practice of leaving the strippings to the young calves. This occurs mostly in the spring, at a time when the dairymen are inclined to make excuses for the poor condition of the milk on the ground that "the cows are fresh." There is another method by which the same result is reached, one which I am loath to believe is practiced by any of the dairymen in the District, and yet one to which my suspicions have been directed in some instances. I refer to the possibility, I will not say probability, of dairymen contracting with their shippers for a class of milk which they know has been partially skimmed or which has been deprived of the strippings. This latter method would be the one most likely to escape detection. Milk of this character from a herd of good, healthy cows would easily stand about 3 per cent fat and could at the same time be sold at a much lower figure. In case the analysis disclosed the poor quality of the milk while in the hands of the dairyman, a sample of the consignment taken at the depot, before it passed into his hands, would disclose the fact that he was selling it just as he received it. He is, therefore, innocent, under the present law, which holds that we must prove that a man knows the character of the article he sells.

It is good evidence, where the milk from a well fed and kept herd of cows falls below 3 per cent of fat, that the milk has been tampered with. Of course it is not to be assumed that half-starved animals are capable at all times of reaching this limit, but the farmer of to-day does not keep that kind of cows. In fact, the more progressive farmers realize that for all practical purposes the cow is merely a machine whereby the crude products are transformed into the refined article; nor do they expect the animal to turn out any greater quantity of any ingredient in the refined article than was supplied in the crude state.

As an illustration representing this fact, I will refer to the experiment carried out by the New York station on the six herds of cattle previously referred to.

The data, covering a period of three years, shows that the food contained 8,277 pounds of crude fat, while the milk yielded 7,145 pounds. Allowing 17.4 per cent for the average impurity in the crude fat, we find that the food contained 95.67 per cent as much fat as was found in the milk. Again, 20 cows in their first period of lactation consumed in all 5,421 pounds of pure fat and yielded milk containing 5,108 pounds. Fourteen of these cows consumed 3,570 pounds of pure fat and yielded milk with 2,973 pounds, or only 83.3 per cent of the fat consumed, while the remaining 6 cows consumed 1,851 pounds and produced in milk 2,135 pounds, or 15.3 per cent more than was consumed.

On an average, therefore, it is shown that the cows, as a whole, practically reproduced in the milk the amount of fat consumed in the crude food products.

The consumption of water was also recorded, in which it is shown that during the three years the cows consumed, on an average, 2,435 pounds of water per month while in milk, and 1,586 pounds while dry—a difference of 849 pounds. This difference would be partly accounted for by the water in the milk.

From these facts we are able to draw the conclusion that in order to have good milk we must have good, healthy cattle, well fed and well kept.

Thus far I have dealt practically with the commercial side of the question—one which affects not so much our health as it does the condition of our pocketbook; and yet, if milk is allowed to be tampered with at all, how are we to be certain that it will not affect our health? The matter of solids in milk is of little concern to the public generally, provided that they have not been reduced by artificial means, and provided further that they have been derived from a healthy animal; but it is a matter of great concern to the public when those solids have been reduced either by the addition of water or the removal of cream.

Mr. George Abbott, in his work on milk legislation, says:

If health officers would confine themselves to their legitimate calling and not attempt to regulate commercial frauds, their work would be much simplified.

Further on he adds:

All breeds of cows may be safely trusted to perform their part well in the production of wholesome milk. Let us see that diseased individuals are eliminated from herds, that the drinking water is pure, that a sufficient and not excessive supply of normal food is fed, that stables are abundantly supplied with air and light, that persons suffering from contagious disease take no part in the handling of milk, and, above all, that the most scrupulous cleanliness be rigidly observed at every stage from the cow's udder to the human stomach, and the commercial aspect of the question may, after being illumined by the light of scientific investigation, be safely left to the buyer and seller.

I quote these statements because they are the ones so often heard coming from those whose interests are opposed to any milk legislation. I quote them also to show their inconsistency, and partly because there is considerable difference between theory, as advanced by such arguments, and practice.

Experience has clearly demonstrated, in this city at least, and I doubt not elsewhere, that when this question is left to the buyer and seller, notwithstanding the light of scientific investigation, the public does not receive the natural milk from the cow. Still further, how is scrupulous cleanliness going to be observed when a dairyman is allowed to add water to his milk? For it is a fact that where health officers fail to look after this so-called commercial fraud this practice becomes very common.

The subject of milk as a factor in the causation of disease has of recent years been pretty thoroughly discussed, and particularly in our last annual report, so that I desire only to call your attention to a few additional points in this connection. I agree with Mr. Abbott in his statement that "all breeds of cows may be safely trusted to perform their part well in the production of wholesome milk," provided the same is derived from healthy animals. Assuming that such is the case, we must look for its unwholesome and pernicious properties in the methods employed in handling the milk.

In the District of Columbia it becomes necessary to consider this subject from several standpoints, owing to the various conditions under which the milk is sold. Among others, we find dairies, grocery stores, dairy lunch rooms, lunch rooms, and eating houses generally dealing in this commodity. The various conditions under which it is kept and sold are as numerous as the classes that have been and might be enumerated.

According to recent decisions of the court, dairies only are required to be governed by regulations for the protection of our milk supply from a sanitary standpoint. In other words, that class of dealers in

this commodity who give up their entire time to the handling of milk, and who are thus as a rule most interested in having their milk preserved in a cleanly and sanitary condition, are obliged to conform to the rules and regulations governing the sale of milk in the District, while grocery stores, lunch rooms, and eating houses are allowed to do as they like in the matter. Probably more disease is contracted from milk kept in insanitary conditions in the latter-mentioned instances than from all the dairies in the District combined.

Where milk is kept for sale there should be no distinctions nor exceptions in the rules and regulations governing the same, nor should any person in the District be allowed to serve unwholesome milk to customers and escape the penalty of the law. If the law is weak in this particular, it should be amended at the earliest possible opportunity, and the clause beginning "All dealers in milk" should be modified so as to read: "Dealers, and all other persons, who sell, serve, or offer for sale milk," etc. Then we would be prepared to handle the milk question in a systematic and intelligent manner.

There is perhaps no complaint in regard to milk that reaches us so often as that of a disagreeable odor which it is said to possess. While this may be caused occasionally by the food the cow has eaten, yet in the majority of cases it is due to bacterial growth caused by insanitary surroundings. In case the milk curdles when brought to a boil, nine cases out of ten will develop the fact that the cause is due to the same conditions, influenced by the fact that the milk had not been sufficiently and properly cooled after having been milked. Milk left in damp cellars, or in rooms where the floor has become saturated with filth, or where foul odors exist, will undoubtedly become contaminated in consequence.

As stated above, milk does, however, at times possess a disagreeable odor due to weeds and vegetables which the cow has eaten, but this can usually be determined from that produced by bacterial growth. In case the odor is derived from the food which the animal has eaten, we find it at its maximum immediately after having been drawn from the cow, whereas the odor produced by bacterial growth does not exist in the milk at all when freshly drawn. In the former case we find that the odor gradually decreases in intensity, while in the latter case it gradually increases; so that by noting whether the odor increases or decreases in intensity we can determine its origin.

Were more care exercised in keeping the vessels and utensils in a cleanly condition, and in keeping the milk in rooms well lighted and ventilated, there would be less trouble with disagreeable odors in milk.

In this connection, I would respectfully call your attention to the inadequate facilities of the Baltimore and Ohio Railroad for the handling of the milk at this end of the line. Merely a platform with no covering, over which at times blow great clouds of dust, and which at other times allows the unwashed cans to stand baking in the sun.

In regard to the adulteration of milk, with the exception of an occasional addition of water, we have little or no cause for complaint, nor have I found a single case in which chemicals have been used for its preservation. In Paris recently, according to the Scientific Review, three samples of a yellow powder, used by certain milkmen at Bordeaux to preserve their milk, were obtained and an analysis made of them. The analyses showed that two of them were chromate of potash and that the third was a mixture of one part of the bichromate and two parts chromate of potash, and that the suspected milk had been adulterated

with this last substance in the proportion of five grains to the quart. There is nothing new in the use of the alkaline chromates for preserving milk, as they are often resorted to in the laboratory for that purpose, but that anyone should use them for the purpose of preserving milk for the trade is hardly conceivable. Fortunately the people of the District have had no experience with this sort of an adulterant.

Another and much more important source of danger to milk lies at the dairy farm itself, so that our efforts to provide a wholesome supply can not be regarded as satisfactory until we have a better knowledge of the sanitary surroundings of the farm than we at present possess.

This can only be obtained by a thorough system of dairy-farm inspection, and this subject deserves earnest consideration. Time and time again it has been recommended that the teats and udder be washed before milking, and yet in numerous instances this advice is entirely disregarded, nor have we any evidence that the cows themselves are even brushed. In fact, the evidence as presented by the debris found in the milk as it arrives in this city shows almost conclusively that no such care is taken of the stock. Still further the evidence derived from some of the dairymen convinces me that in some instances the milk is shipped to the city without even having been strained. It is only recently that a dairyman complained to me that he had great difficulty in getting his shipper to strain the milk, and the cans of milk returned on account of the filth contained in them tends to show that my suspicions are well founded. In my opinion, a systematic dairy-farm inspection would have a tendency to discourage this manner of handling the milk.

But there are other conditions, causes, and influences governing the milk with which the farmer is generally unfamiliar, and which may result in the contamination of the supply without his knowledge or intent. Among these may be mentioned foul odors, impure water, bad ventilation, the presence of contagious-disease germs, and various other causes that distinctly influence the condition of the milk.

One can hardly suppose that any farmer would be guilty of an intentional wrong in this direction. It must, therefore, be assumed that when epidemics of typhoid fever occur from the use of milk polluted with impure water, that the dairyman or farmer was ignorant of the condition of the water used.

The result of such ignorance, however, is well illustrated by an editorial in the Hartford Daily Courant of September 1, 1896, which says:

The fact that typhoid fever is practically a preventable disease is illustrated every week in the year. The latest suggestion of this kind comes from New Haven, where there are now 61 cases of this disease, all believed to have been caused by milk delivered by one dealer. When the milk and water supplies are so guarded that occurrences like this are impossible, we shall hear little of typhoid fever.

It is essential that none but pure water be used about the dairy farm, and the question of its purity should not be left to the farmer himself, but should be certified to by this department. Gross pollution of the water could easily be determined on the premises, as well as waters above the average in purity, thus considerably reducing the number of samples to be collected and transmitted to the city for analysis.

Probably no more important step could be taken by this department than this one of the examination of the water used about the dairy farm.

Of all the morbid properties of milk, however, there is none so prominent or important as those possessed by milk obtained from an unsound animal, and there is no subject that is occupying so much attention to-day as that of tuberculosis in cattle.

That this disease is communicable from animals to the human being through the medium of milk is now generally conceded, and the subject is, therefore, receiving the attention from many of our States that it deserves.

Next to man, bovine races stand at the head in their susceptibility to tuberculosis, and we find a close parallel between the number of dairy cows and the prevalence of tuberculosis in the human race. It has been shown that countries that have few or no cattle suffer but little with tuberculosis. For instance, tuberculosis is rare in Newfoundland, Iceland, northern Norway, Sweden, Lapland, Finland, Hudson Bay, Scottish Hebrides, many parts of China and Japan, and most of the Pacific islands.

Striking and instructive confirmatory evidence is furnished in some instances by the results which have followed the introduction of cattle in certain places. On the Sandwich Islands the disease has become prevalent since the introduction of European cattle. Australia, which was formerly comparatively free from tuberculosis, has become, since the advent of ranching, nearly as tuberculous as England.

The Tartar race, on the other hand, who live mostly on horseflesh and koumiss, are practically free from this disease, while Italy, with her balmy climate, and cattle kept mostly indoors, suffers extensively with tuberculosis. Likewise, in Ecuador and the internal parts of the Argentine Republic, where little or no milk is used, we find very little tuberculosis; and so also among the poor Chinamen, living mostly on rice; whereas the ruling Tartar race, eating beef and drinking milk, suffer extensively with the disease. Thus it becomes evident that if we would eradicate the disease in the human race we must first eradicate it from among the cattle.

Since the introduction of Koch's tuberculin as a diagnostic agent, the recognition of tuberculosis in cattle has become very much simplified and much more certain. There is now, therefore, no practical reason why this disease should not be entirely eradicated from the cattle of the country. As showing the value of this reagent, W. Saunders reports, in the Canada Experimental Farms Report for 1894, that at the Brandon farm, Manitoba, 21 animals out of 28 were found to respond to the injection; at Indian Head, Northwest Territory, 13 out of 39; at Nappan, Nova Scotia, 10 out of 39, and at Agassiz, British Columbia, 5 out of 18. The animals which exhibited considerable rise of temperature were then slaughtered, and without exception showed by post-mortem examination to have been affected with tuberculosis.

From this report we also learn that grade animals appeared to be less subject to tuberculosis than those of pure breed, and that Holsteins and Ayrshires seemed to be less susceptible than other breeds.

In all 74 post-mortem examinations, made in response to the reaction with tuberculin, developed in every case the presence of tuberculosis, although in 26 of the animals the lungs were not affected.

This is a fair illustration of what has been found all over the country by those who have used and noted the effects of tuberculin.

According to the New Jersey experiment station report for 1894, the mean temperature of a herd varies from 101° to 102.5° F. There is a maximal mean at 8 and 10 o'clock in the morning, and a second maximal period at 4, 6, and 8 in the evening.

Temperatures taken at these times would give the best indication, for most cases, of the highest points attained by the normal temperature. As reactions generally begin about twelve hours after injection, by timing the injection so that it shall come twelve hours earlier than

with this last substance in the proportion of five grains to the quart. There is nothing new in the use of the alkaline chromates for preserving milk, as they are often resorted to in the laboratory for that purpose, but that anyone should use them for the purpose of preserving milk for the trade is hardly conceivable. Fortunately the people of the District have had no experience with this sort of an adulterant.

Another and much more important source of danger to milk lies at the dairy farm itself, so that our efforts to provide a wholesome supply can not be regarded as satisfactory until we have a better knowledge of the sanitary surroundings of the farm than we at present possess.

This can only be obtained by a thorough system of dairy-farm inspection, and this subject deserves earnest consideration. Time and time again it has been recommended that the teats and udder be washed before milking, and yet in numerous instances this advice is entirely disregarded, nor have we any evidence that the cows themselves are even brushed. In fact, the evidence as presented by the *débris* found in the milk as it arrives in this city shows almost conclusively that no such care is taken of the stock. Still further the evidence derived from some of the dairymen convinces me that in some instances the milk is shipped to the city without even having been strained. It is only recently that a dairyman complained to me that he had great difficulty in getting his shipper to strain the milk, and the cans of milk returned on account of the filth contained in them tends to show that my suspicions are well founded. In my opinion, a systematic dairy-farm inspection would have a tendency to discourage this manner of handling the milk.

But there are other conditions, causes, and influences governing the milk with which the farmer is generally unfamiliar, and which may result in the contamination of the supply without his knowledge or intent. Among these may be mentioned foul odors, impure water, bad ventilation, the presence of contagious-disease germs, and various other causes that distinctly influence the condition of the milk.

One can hardly suppose that any farmer would be guilty of an intentional wrong in this direction. It must, therefore, be assumed that when epidemics of typhoid fever occur from the use of milk polluted with impure water, that the dairyman or farmer was ignorant of the condition of the water used.

The result of such ignorance, however, is well illustrated by an editorial in the Hartford Daily Courant of September 1, 1896, which says:

The fact that typhoid fever is practically a preventable disease is illustrated every week in the year. The latest suggestion of this kind comes from New Haven, where there are now 61 cases of this disease, all believed to have been caused by milk delivered by one dealer. When the milk and water supplies are so guarded that occurrences like this are impossible, we shall hear little of typhoid fever.

It is essential that none but pure water be used about the dairy farm, and the question of its purity should not be left to the farmer himself, but should be certified to by this department. Gross pollution of the water could easily be determined on the premises, as well as waters above the average in purity, thus considerably reducing the number of samples to be collected and transmitted to the city for analysis.

Probably no more important step could be taken by this department than this one of the examination of the water used about the dairy farm.

Of all the morbid properties of milk, however, there is none so prominent or important as those possessed by milk obtained from an unsound animal, and there is no subject that is occupying so much attention to-day as that of tuberculosis in cattle.

That this disease is communicable from animals to the human being through the medium of milk is now generally conceded, and the subject is, therefore, receiving the attention from many of our States that it deserves.

Next to man, bovine races stand at the head in their susceptibility to tuberculosis, and we find a close parallel between the number of dairy cows and the prevalence of tuberculosis in the human race. It has been shown that countries that have few or no cattle suffer but little with tuberculosis. For instance, tuberculosis is rare in Newfoundland, Iceland, northern Norway, Sweden, Lapland, Finland, Hudson Bay, Scottish Hebrides, many parts of China and Japan, and most of the Pacific islands.

Striking and instructive confirmatory evidence is furnished in some instances by the results which have followed the introduction of cattle in certain places. On the Sandwich Islands the disease has become prevalent since the introduction of European cattle. Australia, which was formerly comparatively free from tuberculosis, has become, since the advent of ranching, nearly as tuberculous as England.

The Tartar race, on the other hand, who live mostly on horseflesh and koumiss, are practically free from this disease, while Italy, with her balmy climate, and cattle kept mostly indoors, suffers extensively with tuberculosis. Likewise, in Ecuador and the internal parts of the Argentine Republic, where little or no milk is used, we find very little tuberculosis; and so also among the poor Chinamen, living mostly on rice; whereas the ruling Tartar race, eating beef and drinking milk, suffer extensively with the disease. Thus it becomes evident that if we would eradicate the disease in the human race we must first eradicate it from among the cattle.

Since the introduction of Koch's tuberculin as a diagnostic agent, the recognition of tuberculosis in cattle has become very much simplified and much more certain. There is now, therefore, no practical reason why this disease should not be entirely eradicated from the cattle of the country. As showing the value of this reagent, W. Saunders reports, in the Canada Experimental Farms Report for 1894, that at the Brandon farm, Manitoba, 21 animals out of 28 were found to respond to the injection; at Indian Head, Northwest Territory, 13 out of 39; at Nappan, Nova Scotia, 10 out of 39, and at Agassiz, British Columbia, 5 out of 18. The animals which exhibited considerable rise of temperature were then slaughtered, and without exception showed by post-mortem examination to have been affected with tuberculosis.

From this report we also learn that grade animals appeared to be less subject to tuberculosis than those of pure breed, and that Holsteins and Ayrshires seemed to be less susceptible than other breeds.

In all 74 post-mortem examinations, made in response to the reaction with tuberculin, developed in every case the presence of tuberculosis, although in 26 of the animals the lungs were not affected.

This is a fair illustration of what has been found all over the country by those who have used and noted the effects of tuberculin.

According to the New Jersey experiment station report for 1894, the mean temperature of a herd varies from 101° to 102.5° F. There is a maximal mean at 8 and 10 o'clock in the morning, and a second maximal period at 4, 6, and 8 in the evening.

Temperatures taken at these times would give the best indication, for most cases, of the highest points attained by the normal temperature. As reactions generally begin about twelve hours after injection, by timing the injection so that it shall come twelve hours earlier than

these periods, we would get the advantage of the normal tendency to rise superadded to the influence of the tuberculin; so that if a decided rise occurs at 8 a. m. or 10 a. m., this being compared with the temperature taken at these periods the day previous, we can generally see if a reaction has taken place. It follows that 8 p. m. is the best time to make the injection, though a few hours earlier will not seriously affect the result, because the reactions last so long that they will still occur during the maximal period.

The method of injecting tuberculin, according to L. Pearson, Pennsylvania experiment station, Bulletin No. 29, consists in using 1 dram of a 10 per cent solution in a 1 per cent solution of carbolic acid.

Before injecting, the skin should be washed and disinfected and the syringe needle should be as nearly aseptic as possible.

After the injection the temperature should be taken in three hours and again after eight hours, after which the temperature should be taken every two hours for several intervals. If the temperature rises one and one-half degrees or more above the previously established normal within from eight to eighteen hours after the administration of the tuberculin, and remains high for at least two measurements, with no evident cause of fever except the injection of the tuberculin, this elevation is to be considered as a reaction and an indication of the presence of tuberculosis.

As to the injurious effects of tuberculin on healthy cattle, there is no reliable evidence that would tend to bear out such a supposition, and the New York commission on tuberculosis in cattle, after a thorough study of the question, concludes that, "taken all in all, there is nothing in the indication of temperature that would indicate, either at the time of the test or later, that the tuberculin had in any way proved inimical to the general health. Had the health been impaired by the repeated operation of the tuberculin it might have been expected that the constitutional disturbance would have been more distinctly marked in the later tests than in the earlier ones, and as no such tendency is observable, it may be safely concluded that so far as illness can be indicated by a variation of temperature, test doses of tuberculin, in the absence of bacillus, does not seem to produce any such illness in the healthy animal."

There now remains for us, therefore, to observe the manner in which tuberculosis is contracted by the animal, after which we are in a position to recommend certain rules and regulations for its suppression or annihilation.

While there are numerous ways in which the disease may be contracted, the more prominent ones would seem to be—

1. Inhalation.
2. Infection through food and drink.
3. Sexual congress.
4. Inoculation in wounds.
5. Infection through the mammary gland.

There seems to be no question as to these methods of infection, practically all investigators agreeing substantially to the above.

That they may contract the disease by inhalation has been aptly illustrated by Koch and others by administering to the animals atomized tuberculous liquids, while the second method of infection has been proven by mixing an emulsion of tuberculin with the food.

The New York commission on tuberculosis states that on experiments performed on calves and swine by St. Cyr and others the infection

was in proportion to the youth of the subject and the quantity swallowed. Further, the experiments of Bollinger and Gebhardt showed that the dilution of such milk with 50 or 100 times its volume of sound milk would almost remove the element of danger, owing to the germicidal power of milk and greater power of resistance in the digestive organs.

This statement is interesting also from the fact that W. Hesse and A. Weigman have concluded that raw milk is not a good medium for the growth of the cholera germ.

The third method of infection is one of considerable importance, as one male often serves a large herd, and if already infected would have a tendency to infect a large number of animals. Particular attention should therefore be given to the examination of the males in a herd.

The fourth method is one of the most direct of any of them, and while perhaps it does not occur so often, it is nevertheless much more certain, while the fifth method is the most dangerous of all, owing to the frequency with which the mammary gland is affected.

According to Mr. J. Law, New York Cornell Experiment Station Bulletin, the tubercle bacillus is killed by a temperature of 158° F. for ten minutes. It dies in a few hours in direct sunlight, and in five to seven days in diffused daylight, while according to Galtier the bacillus tuberculosis is preserved indefinitely in springs, ponds, and wells at all ordinary temperatures; hence the danger of common drinking troughs, of streams that have run past infected herds, or the places where their manure has been put and of soil that has received the manure or carcasses of the diseased.

The preventive measures which stockmen are advised by the author to adopt cover the subject so thoroughly and are so well expressed that I have thought it advisable to append them hereto.

1. Board up the partitions at the front, so that no two cows can feed from the same manger or lick each other.

2. Keep each animal strictly by its own stall and manger.

3. When any animal is suspected don't let it use a drinking trough or bucket in common with other animals.

4. Avoid old milch cows and unthrifty ones, or keep them secluded from the rest of the herd.

5. The following conformation usually indicates a weakness of constitution and a susceptibility to tuberculosis: Head narrow between the horns, sunken eyes, depth of cavity (temporal) back of the eyes thin, narrow, ewe neck; chest small, lacking in both depth and breadth; hollow flank, and tendency to pot-belly, a general lack of muscle so that the limbs seem loosely attached to the body; in breeds that show a variety of colors, animals of the lighter shades of brown and yellow. If, however, such animals are of high value for the dairy, they need not be rejected.

6. Don't purchase from a herd in which tuberculosis has appeared or in which cattle have died within a year or two. Resort first to the tuberculin test.

7. Don't take a cow with a husky or rattling cough, wheezing, hurried breathing, discharge from the nose, fetid breath, hard bunches under the skin, diseased udder, swollen bones or joints, unthriftiness, or a tendency to sour or bloot.

8. Don't purchase from city, suburban, or swill stables.

9. Don't add newly purchased cattle to your herd until you have

tested them with tuberculin, especially if they have been the product of inbreeding.

10. Don't admit strange cattle to house, field, or yard with your own. Keep them apart until tested with tuberculin.

11. In case of disease or unthriftness in your herd, put the animals apart and have them examined by a skillful veterinarian.

12. If after this there remains any doubt as to the real nature of the disease, have the animals tested with tuberculin in the hands of a practitioner thoroughly acquainted with cattle and their diseases. If the result is not yet quite clear, keep the animal by itself and repeat the test in four weeks.

13. In case an animal in a herd shows tuberculosis test the whole herd with tuberculin.

14. Test in the same manner all animals on the farm (swine, goats, sheep, horses, rabbits, cats, dogs, fowls) that cohabit with the cattle.

15. Kill all tuberculous animals and boil, burn, dissolve in acid, or bury deeply in a place to which no animals have access.

16. Disinfect premises thoroughly; also all products of the diseased animals and all articles used about them.

17. Let no consumptive person attend on cattle or other live stock or prepare their food.

18. Vermin (rats, mice, sparrows) in a building where tuberculous animals have been should be exterminated.

The above suggestions, in my opinion, need no comment; but as the question has on several occasions been raised as to how premises, etc., can be disinfected, I would submit the following as the method adopted by the Delaware Experiment Station for disinfecting stables:

The method of disinfection is to spray the stables with a 1 per cent solution of chloride of lime, to which a small quantity of whitewash is added. This is done by means of a spraying pump under a pressure of more than 100 pounds to the square inch. This solution, when driven through the air by heavy pressure, charges the barn so thoroughly with chlorine gas that after the barn has been closed for a few hours sterilization is completed as well as circumstances will allow.

In concluding this subject of tuberculous cattle and milk I would call your attention to the necessity of a more thorough inspection at the dairy farm.

The examination of the milk after it reaches the city is of little or no value in restricting this disease, nor have I much faith in the inspection of the cattle outside the District as now carried on, for it is hardly to be expected that all farmers who have their cattle inspected merely to comply with the requirements of the health department, and who pay for such inspection out of their own pocket, and who select such veterinarians as they see fit, are going to submit to having their cattle condemned.

The remedy must therefore be with us, and the appointment of a competent veterinarian by the District, whose duties it shall be to see that no milk from tuberculous cows is brought into the District, with such additional laws governing the same as may be necessary, will go a long ways toward restricting tuberculosis in the District of Columbia.

There is but one other subject that I desire to call your attention to at this time, and that is the subject relating to the preservation of milk.

Milk derived from a healthy animal is germ free. This statement is doubted by some, but the evidence as presented by numerous investigators goes to prove that such is the case, provided that we make exception for those germs that have found entrance into the milk duct

from external sources. The milk duct is, of course, open to the air, so that the germs have no difficulty in finding entrance into the duct, growing there and becoming very numerous, and it is even probable that some of them find their way into the milk gland itself, where they grow and multiply. It will therefore be seen that the difficulty of obtaining milk free from bacterial contamination is very great, so that the fact that one or several investigators have failed to obtain milk from a cow free from these germs should not be accepted as evidence tending to prove the fallacy of this statement.

On the other hand, enough experiments in this direction have met with success as to prove the general assumption that all bacterial contamination of milk comes from external sources. This was first demonstrated by Roberts, confirmed by Lister in 1877, by Meisner in 1882, and by other investigators since that time.

We must therefore look to the environments of the cattle as the most probable cause of the contamination of milk, and in the absence of direct evidence tending to show the freedom of such environments from disease germs, we naturally turn to the subject of sterilization or pasteurization as a means of relieving us from the injurious effects of a possibly contaminated milk supply.

As to sterilization, the term is supposed to mean the employment of a temperature approximating, if not exceeding, the boiling point of water, which temperature undoubtedly modifies to a certain extent the nutritive property of the milk by rendering it less susceptible to assimilation.

In a report to the dairy commission of the State of New Jersey on the preservation of milk, Dr. Albert R. Leeds and Prof. A. W. Conn stated that the germicidal power which fresh milk is known to possess and to retain for some hours is instantly destroyed by the rapid heating in the process of sterilization; furthermore, the process produces coagulation of the albumin in the milk, which is thereby rendered more difficult of digestion.

Besides, it is maintained that continued heating also tends to destroy the milk sugar; that the fat existing in a state of emulsion is liberated and rendered difficult of absorption; and that the casein is affected so that it is less easily and less completely precipitated by rennet.

Dr. C. W. Earle (Chicago Medical Record) accepts these views, and states that both clinical and chemical evidence leads to the belief that the nutritive power of milk is impaired by heating the food to any temperature above 80° C. (176° F.), and that milk may be best pasteurized by simply immersing the vessel containing it in boiling water that has been removed from the source of heat and leaving it so immersed for half an hour.

From these facts, it must be seen that the use of high temperatures, such as is obtained when milk is boiled, or when brought to the boiling point of water, should be avoided. In fact, there is nothing to be gained by such treatment, as the use of such temperatures, unless extended over a considerable length of time, can not be relied upon to free the milk from spores. If, therefore, we are able only to destroy the germs themselves, the lower the temperature at which this can be accomplished the better. Since most kinds of vegetating bacteria are killed by a moist heat of 140° F. for ten minutes and the tubercle bacilli at a temperature of 149° F. for thirty minutes, or 155° F. for fifteen minutes, or 167° F. for ten minutes, it follows that by heating the milk for twenty minutes at a temperature of 155° F. we have accomplished all that is possible to be done in this line without destroying the milk

solution. This is exactly what is accomplished by pasteurization, by which is understood the use of heat at a temperature ranging from 140° to 175° F., and applied for a limited length of time.

Mr. H. L. Russell, of the Wisconsin agricultural experiment station, has given this subject considerable attention during the past year, and as showing the effect of pasteurization on the diminution of bacteria in milk, states that in the number of samples pasteurized by him "only in exceptional instances (not more than one or two in the entire set of analyses) did the reduction in number fall below 90 per cent, showing that the absolute percentage of spores compared with growing vegetating forms was very small."

He also states that in 40 per cent of the samples examined there were less than 1,000 germs per cubic centimeter after pasteurization, which would correspond to a reduction of over 99 per cent.

Of course the length of time since the milking and the manner in which the milk has been handled will influence, more or less, the result, but I think from the above it will be seen that for all practical purposes the pasteurization of milk is greatly to be preferred to the sterilizing process.

In this process (pasteurization) it is also essential that the milk should be at once thoroughly cooled, for if allowed to cool spontaneously it would remain for a considerable period at a temperature favorable to the growth and development of the germs. This process of pasteurization is strongly recommended as being simple and effective and requiring only ordinary care and attention.

There are also other methods of preserving milk, such as the use of borax and boracic acid, salicylic acid, etc., all of which are, however, well known, and therefore need no further discussion at this time, unless it is to state that, in my opinion, such substances are undesirable and are to be avoided. Formalin has also come somewhat into prominence recently as a milk preservative. This substance, which was originally brought forward by Berlioz and Trittal in 1892, is, according to more recent experiments of Berlioz, harmless to man, and is therefore well adapted to the preservation of beer, wine, etc. (United States Dispensary.) Whether the "etc." includes milk or not I am unable to say, although there is probably no doubt as to its efficiency in preserving milk. Mr. Rideal found that with 1 part of formalin to 10,000 of milk, the milk remained fresh for seven days. The formalin used for preserving milk in the trade he found to contain 5 ounces of pure formalin to the gallon. With this strength he found that milk would keep fresh for at least three days. Mr. Rideal also states that he has heard of no toxic effects from its use, and that he has himself repeatedly drank the 1 per cent solution, while that used for preserving milk is almost tasteless. Its volatility is certainly in its favor, but I am of the opinion that the data regarding its toxic effects, particularly on infants and young children, are too meager to recommend its use as a milk preservative.

I would therefore, in the light of our present knowledge, recommend the pasteurization of milk only, as a simple, harmless, and effective method of rendering the milk free from innocuous germs.

In conclusion, I would call your attention to the need of an increased appropriation for this department. With a daily increase in the variety of the work, it is impossible, under the present state of affairs, either to work to advantage or to do justice to the cause for which a health department laboratory is intended.

It is also equally as important that there should be an assistant to

the chemist in this department, who can at least relieve him from the necessity of collecting samples for analyses.

With my time devoted entirely to chemical work, I could undoubtedly render more efficient services to the department.

Respectfully submitted.

J. D. HIRD.

Dr. WILLIAM C. WOODWARD,
Health Officer, Washington, D. C.

Table for the dilution of alcohol to 30 per cent by volume.

[To each 100 c. c. add water corresponding to its present per cent.]

Per cent.	Cubic centime- ters.	Per cent.	Cubic centime- ters.	Per cent.	Cubic centime- ters.
30	0.0	45	50.5	60	101.8
31	3.3	46	53.9	61	105.2
32	6.6	47	57.3	62	108.6
33	10.0	48	60.7	63	112.1
34	13.4	49	64.1	64	115.5
35	16.7	50	67.5	65	119.9
36	20.1	51	70.9	66	122.4
37	23.4	52	74.3	67	125.9
38	26.8	53	77.7	68	129.4
39	30.2	54	81.2	69	132.8
40	33.5	55	84.6	70	136.3
41	36.9	56	88.0	71	139.7
42	40.3	57	91.4	72	142.3
43	43.7	58	94.9	73	146.7
44	47.1	59	98.3		

Table for the determination of fusel oil.

Increased volume.	Per cent oil.	Increased volume.	Per cent oil.	Increased volume.	Per cent oil.
0.01	0.0066	0.23	0.15914	0.45	0.2984
.02	.0133	.24	.1658	.46	.3050
.03	.0199	.25	.1724	.47	.3117
.04	.0265	.26	.1724	.48	.3183
.05	.0332	.27	.17904	.49	.3249
.06	.0398	.28	.1857	.50	.3316
.07	.0464	.29	.1923	.51	.3382
.08	.05305	.30	.1989	.52	.3448
.09	.0597	.31	.20554	.53	.35144
.10	.0663	.32	.2122	.54	.3581
.11	.07294	.33	.2188	.55	.3647
.12	.0862	.34	.2255	.56	.37134
.13	.0928	.35	.2321	.57	.3780
.14	.0995	.36	.2387	.58	.3846
.15	.1061	.37	.24535	.59	.3912
.16	.1127	.38	.2520	.60	.3979
.17	.1194	.39	.2586	.61	.4045
.18	.1260	.40	.26524	.62	.4111
.19	.1326	.41	.2719	.63	.4178
.20	.1393	.42	.2785	.64	.4244
.21	.1459	.43	.2851	.65	.4310
.22	.1525	.44	.2918		

Table of analyses of liquors.

WHISKY.

Number.	Fusel oil.	Alcohol volume.	Solid residue.	Number.	Fusel oil.	Alcohol volume.	Solid residue.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>		<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1268.....	0.1127	27.75	1.46	990.....	0.0133	49.12	0.13
362.....	.1127	44.30	.14	302.....	.0398	41.26	.21
440.....	.1857	45.35	.19	974.....	.1194	49.00	.63
382.....	.1061	46.45	.17	360 ².....	.0995	29.48	.16
1197.....	.0928	39.16	.32	916.....	.1061	47.30	.76
692.....	.0133	40.86	.31	972.....	.0398	40.10	.16
1254.....	.0796	29.90	.12	1240 ¹.....	.0796	39.35	.104
982.....	.2652	45.75	.14	1182 ¹.....	.1326	38.95	.26
1072.....	.2255	40.15	.33	986.....	.0265	37.55	.18
616.....	.0265	38.25	.15	152.....	.053	49.15	.12
386.....	.2652	45.75	.14	50.....	.1525	44.75	1.38
598.....	.1591	34.55	.18	1090 ³.....	.1194	34.60	.38
158 ¹.....	.3183	40.35	.39	1062.....	.053	43.90	.98
652.....	.0663	47.95	.21	564.....	.1260	36.15	.43
714 ¹.....	.1591	50.30	1.09	1274.....	.1525	34.30	.16
76.....	.0796	41.05	.53	1212.....	.1260	36.15	.43
978 ¹.....	.1194	45.97	.19	1084.....	.1525	34.30	.16
996.....	.1089	42.83	.22	1162.....	.1061	41.80	.19
1086.....	.0265	29.55	.23	1300.....	.0729	42.40	.23
364.....	.1061	39.30	.18	924.....	.1061	49.95	.18
1032.....	.1326	46.65	.76	1174.....	.0796	44.20	.78
1242.....	.0796	42.55	1.41	1248.....	.1459	36.15	.18
937.....	.053	40.21	.19	1256.....	.1127	37.90	.15

GIN.

1247.....	0.20	36.85	0.035	203.....	0.1061	33.95	0.022
1161.....	.1459	43.90	.035	1255.....	.2918	36.10	.028
1195.....	.2387	39.45	.038	1273.....	.053	33.80	.025
1115 ⁴.....	.2652	45.47	.78	537.....	.053	41.15	.026
1127.....	.3448	50.48	.055	981.....	.053	41.15	.026
1055.....	.3183	48.55	.028	1037.....	.2122	44.47	.72
1257.....	.1857	34.85	.026	997.....	.2918	37.27	.037
1085.....	.0796	36.05	.03	1045 ⁵.....	.2652	49.73	.028
939 ⁶.....	.2918	30.10	.056	685.....	.1393	31.15	.033
1223.....	.0265	41.15	.034	831.....	.1127	33.53	.17
561.....	.1459	32.05	.057	57.....	.0928	48.10	.21
667.....	.0796	33.05	.048	811.....	.0995	47.85	.20
689.....	.1326	36.45	.041	567.....	.1194	43.60	.15
1596.....	.1724	34.10	.034	1051 ⁴.....	.053	41.45	1.7
1061.....	.2652	46.25	.028	1123.....	.053	35.00	.044
787.....	.1194	45.25	.017	503.....	.0928	45.90	.031
581.....	.2918	42.20	.057	1183.....	.0729	45.05	.08
321 ⁴.....	.1591	47.95	.45				

¹ Excess tannic acid.² Linseed oil present.³ Excess tannic acid and linseed oil.⁴ Solids mostly glycerin.⁵ Coriander flavor.⁶ Excess turpentine.

DESCRIPTION OF THE MUNICIPAL DISINFECTING STATION.

The building containing the machinery is 70 feet long by 32 feet wide, timber framing, covered with corrugated galvanized iron sides and roof, hip rafters 12 feet, clear to the bottom of truss, granolithic floor with a pit 13 feet 6 inches wide, 26 feet 6 inches long, and 14 inches deep for the sterilizing chamber.

At each end driveways for vans are provided 10 feet wide, and a frame partition divides the building into two apartments, for infected and disinfected articles. Provision is also made for dressing rooms, bath, and closets, accessible from each apartment.

The apparatus consists of a chamber for steam disinfection, boiler and necessary appurtenances, chamber for sulphur or other fumigation, vats for bichloride or other liquid disinfection, and sprays for disinfection of the vans. The steam chamber is 4 feet 4 inches wide, 5 feet 4 inches high, and 9 feet long, and is made rectangular to give the most effective space during exposure, with the greatest economy of steam, and is constructed of an inner and an outer steel shell, forming steam jacket, with cast-iron end frames, intermediate truss bands, and screw-stay construction.

The jacket gives perfect circulation, prevents in a large degree rapid condensation, and being filled with steam during the entire operation, makes the chamber a drying oven, so that articles to be disinfected are brought to temperature before the admission of steam to the inner chamber and dried after the steam has been exhausted. A galvanized three-leaf hood is placed in top of chamber to prevent the condensation being forced directly upon the goods exposed, such condensation being carried by the hood to the sides of the chamber and thence conducted through drip pipes to the trap.

The doors are arranged at both ends, having concave steel plates riveted to cast-iron frames, fitted with steam-tight gaskets, and are handled by convenient cranes, being drawn tight by steel eyebolts, swinging in and out of slots in the frames.

The system of piping is so arranged as to give thorough control of the circulation. Steam may not only be admitted at top and bottom at will but may also be admitted at either end on top and discharged at opposite end on bottom, or vice versa, so that cross currents are obtained and the steam handled in any manner suited to obtain the best results from the articles being exposed.

In this system of piping a patent air exhauster is attached to obtain a partial vacuum in chamber, thus preventing a possibility of life to the germ and securing greater penetration to the steam.

Thermometers, to indicate the temperature, are attached to each door, and gauges are provided to indicate both vacuum and steam pressure and a safety valve is introduced to prevent a possibility of overpressure in the chamber, the amount of working pressure being regulated by a reducing valve in the steam pipe from the boiler.

For convenience in handling the goods two cars are provided, of light iron construction, with three removable trays in each, covered

with galvanized screens, and on the top three rows of bronze wardrobe hooks are arranged, so that articles may be laid upon the trays or the trays removed and clothing hung upon the hooks. The chamber is placed in a pit 14 inches deep, to bring the track in the chamber on a level with the floor, and in this pit are two transfer tables, so that the cars passing in at one end of chamber, after being unloaded at the other, can be returned to the working end of chamber by means of the transfer tables and side tracks, thus securing a continuous operation and a complete isolation of the infected from the disinfected end of building.

The steam chamber and boiler and all steam pipes are covered with magnesia nonconducting covering to prevent radiation and loss.

The working of such a sterilizing chamber may be described as follows:

The steam, generated at high pressure in the boiler, is reduced to a proper working pressure by a reducing valve and allowed to circulate continuously in the jacket, slowly at first to avoid sudden expansions.

While the chamber is being slowly heated the goods are loaded upon one of the cars and then pushed into the chamber and the doors closed and made steam and air tight. When the thermometer indicates proper temperature in the inner chamber the air exhauster is started, until a vacuum of 10 to 15 inches is shown on the gauge; then it is stopped and steam is admitted slowly to the inner chamber until there is a pressure of, say, 10 pounds. The valves from the jacket are then closed, while the vents are opened so as to allow the steam to escape.

The air exhauster is again started and the above process repeated; then the steam is allowed to circulate through the inner chamber under 5 to 10 pounds pressure, so as to secure a full and perfect exposure of all the articles to the current of steam. After the period of exposure the steam is closed from the inner chamber and the vacuum again started, to remove any condensation which may occur. After the exposure the door at the opposite end of chamber is opened, the car removed and unloaded, and thence passed to the working end of chamber by means of the transfer tables.

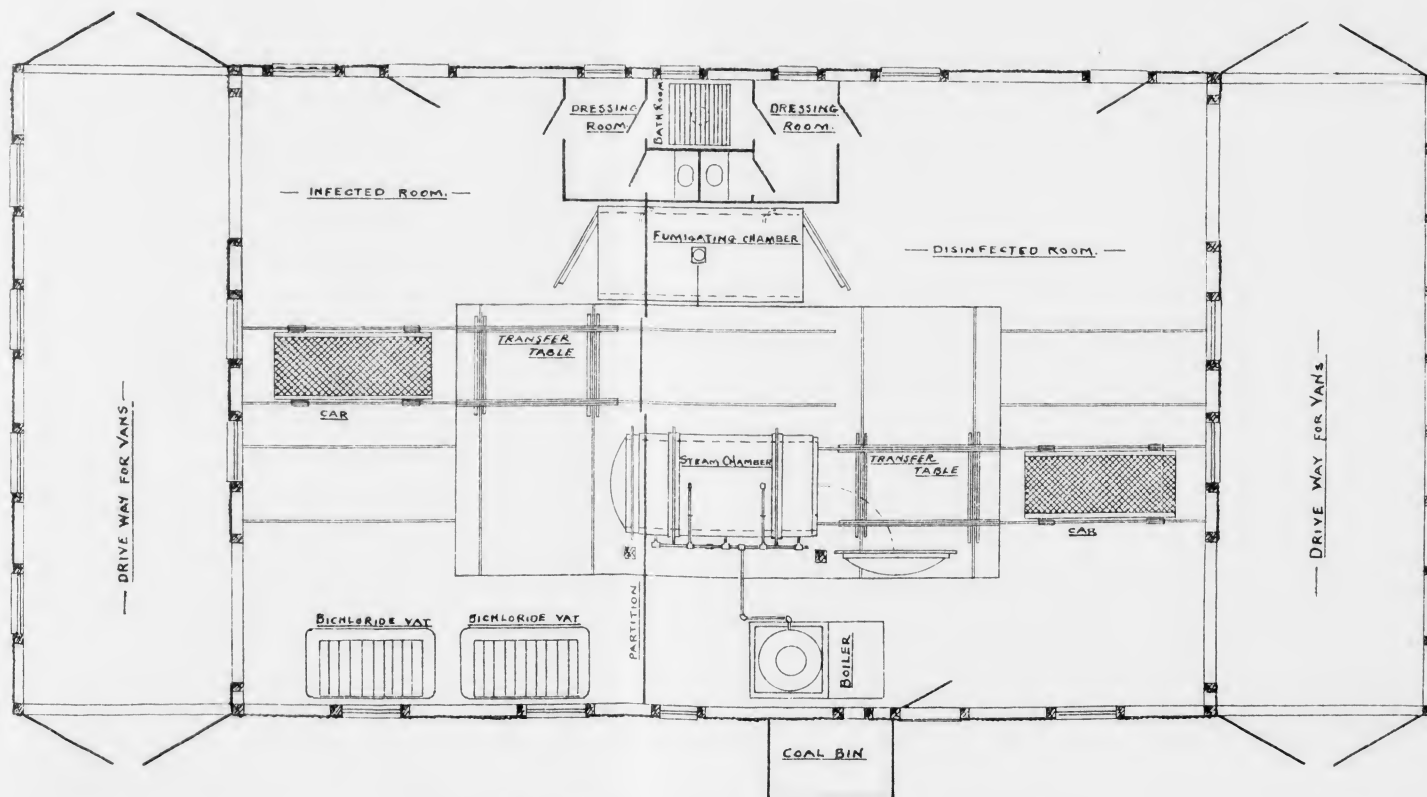
Fume chamber is of wooden construction, 4 feet wide, 6 feet high, 10 feet long; the walls are hollow and lined with galvanized iron throughout. Doors at each end are made fume tight. To the chamber is attached a small hand fan, with valves and circulating pipes at the bottom and an exhaust pipe at the top, so that when the fumigation is completed the waste fumes can be forced from the chamber and driven outside the building through the exhaust pipe, thus avoiding annoyance and discomfort to the operators.

Bichloride vats are constructed of cedar, 5 feet long, 3 feet high, two feet deep, and are provided with removable trays on top, upon which are placed the articles to be treated. Around three sides of vats is arranged a trough for the disinfecting solution, and the bottoms of vats have waste pipes and valves.

Van sprays consist of hand pumps attached to proper receptacle for the solution, with hose sufficient to reach the vans conveniently.



MUNICIPAL DISINFECTING STATION - (ON RESERVATION No. 13).

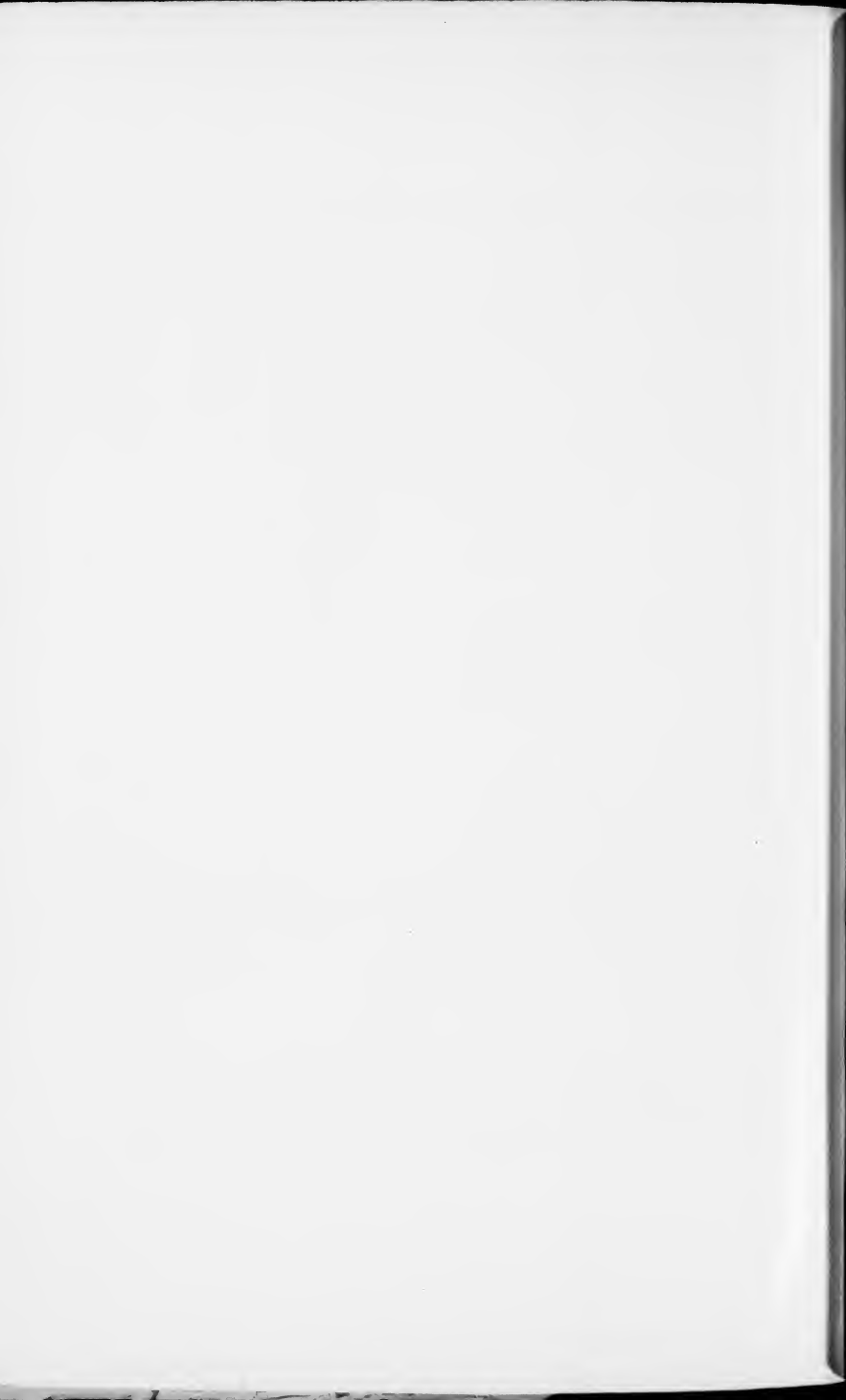


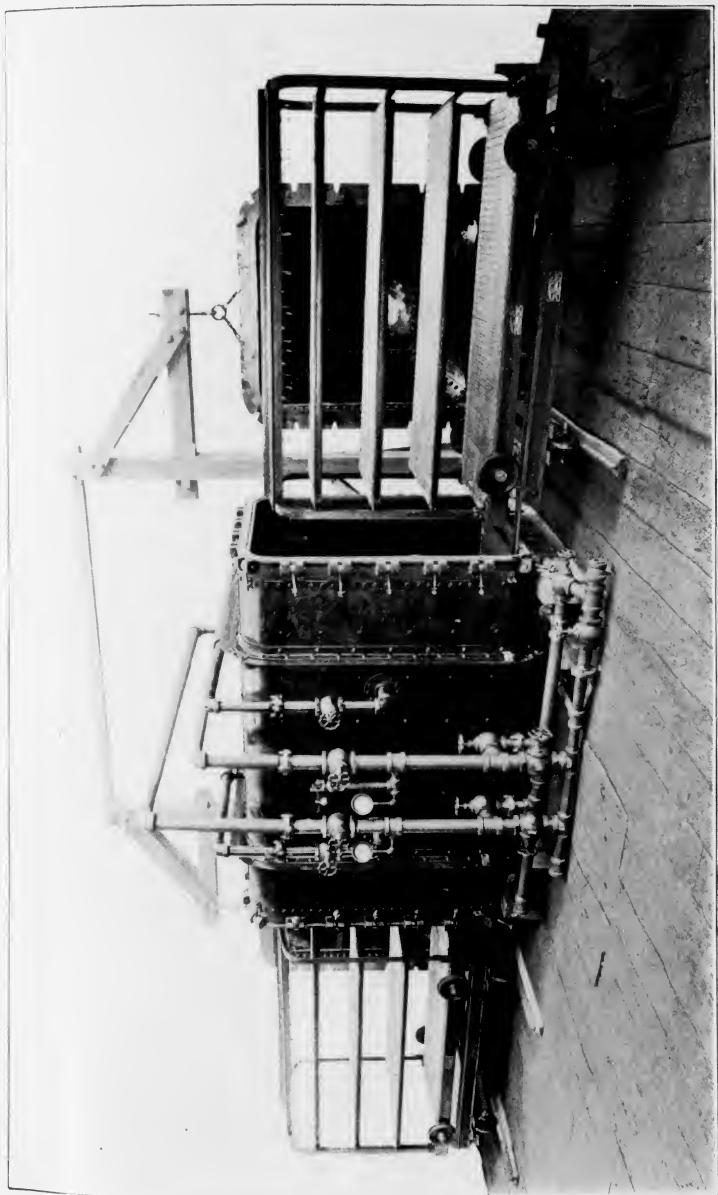
— MUNICIPAL DISINFECTING STATION —
— WASHINGTON D.C. —



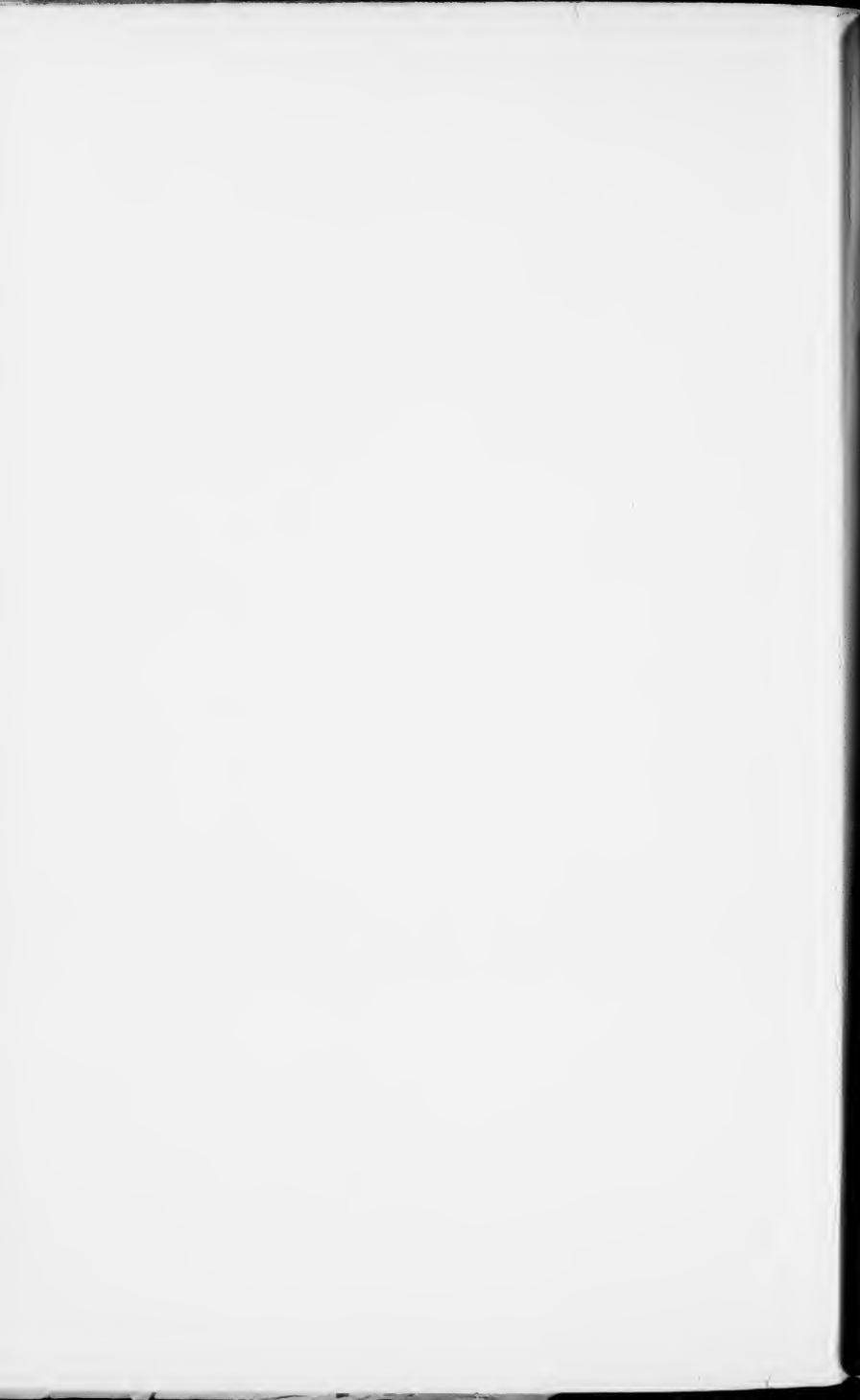


MUNICIPAL DISINFECTING STATION—INTERIOR VIEW.





MUNICIPAL DISINFECTING STATION - STEAM CHAMBER OPEN.



REPORT OF THE COMMITTEE ON ANALOSTAN ISLAND.

HEALTH DEPARTMENT, DISTRICT OF COLUMBIA,
Washington, D. C., March 2, 1896.

GENTLEMEN: In accordance with your instructions of February 8, we submit the following report of our examination of Analostan Island with a view to its use as a site for an isolation hospital:

This island contains about 54 acres of solid ground above the ordinary level of the tides and about 34 acres of swamp at about the level of low tide. The ground rises rather rapidly from the water to a height of 15 feet above high tide, and then more gradually to the height of 50 feet, which is the maximum elevation of the island. The area above the contour 15 is 42 acres, and above the contour 30, 22 acres.

The island is separated from the city of Washington by the Potomac River, the least width of which is about 750 feet; it is separated from the Virginia shore by a shallow body of water, known as "Little River," of about the same width. This body of water was at one time much deeper and formed a branch of the Potomac River. In 1805, in order to deepen the Georgetown channel of the river, the city of Georgetown entered into an agreement with Mr. John Mason, the owner of the island, whereby the city was to construct a dam or causeway between the north front of the island and the Virginia shore so as to entirely stop the flow of water behind Analostan Island. This causeway was constructed, but has since been partially destroyed. Its effect was to convert Little River into a tidal basin.

South of the island is a large area of marsh extending down to Alexander Island.

To convert the island into a suitable site for an isolation hospital we believe that it will be necessary—

First, to reclaim the marshes along the island and as far south as Alexander Island. This might be done by dredging one-half the area to a depth of 6 feet below mean low water, and raising the other half 6 feet above that plane; estimated cost, \$148,000.

Second, to connect the island with the approaches of the Aqueduct Bridge by a road and bridge 20 feet wide, and to construct a dock on the island opposite the foot of New Hampshire avenue; estimated cost, \$12,000.

Third, to lay a 6-inch water main from the north end of the Aqueduct Bridge to the probable site of the hospital; estimated cost, \$9,050.

Total cost of improvement, \$169,050.

Analostan Island appears on the books of the assessor of the District of Columbia as containing 75 acres, assessed at \$500 per acre, making a total assessed valuation of \$37,500. If purchased by the Government under condemnation proceedings, it would probably bring three times its assessed value, or \$112,500.

The probable total cost of the island in a condition to use as a site for an isolation hospital would therefore be \$281,550.

Except when the navigation of the river is closed by ice, the communication with the island should be by means of a steam ferry; when the river is closed, it would be necessary to approach the island from the Virginia shore via the Aqueduct Bridge.

Respectfully submitted.

G. J. FIEBEGER, *Captain of Engineers,*
WM. C. WOODWARD, M. D., *Health Officer,*
JOHN B. BRADY, *Inspector of Buildings,*
Committee.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

GARBAGE CONTRACT.

[No. 2188.]

This contract, made and concluded this fourth day of September, in the year of our Lord one thousand eight hundred and ninety-five, by and between the District of Columbia, of the first part, and Joshua N. Warfield, of the county of Howard, State of Maryland, of the second part, witnesseth:

First. That the said party of the second part for himself, his heirs, executors, administrators, or other legal representatives, has agreed, and by these presents does agree, with the said party of the first part, for the consideration hereinafter mentioned and contained, and under the penalty expressed in a bond bearing even date with these presents, and hereunto annexed, to furnish all necessary labor and material, and in a good, firm, and substantial manner, in strict accordance with the proposal, specifications, and general stipulations hereunto attached and made a part of this contract, execute the following described work, to wit:

Collect, remove, and cremate all garbage, refuse animal and vegetable matter, and condemned food from the city of Washington and its more densely populated suburbs, as said suburbs may be designated from time to time by the Commissioners of the District of Columbia, and collect, remove, and cremate all dead animals in said District for a period of four years and eight months, beginning November first, eighteen hundred and ninety-five.

Method of disposal to be by the "Dixon" or other method of "cremation" acceptable to the Commissioners of said District.

The party of the second part will be required to build and maintain, without cost to the District of Columbia beyond the price stated in the proposal, two cremating plants—or three, if necessary—of sufficient capacity to dispose of, daily, the entire garbage in the city of Washington and its more densely populated suburbs, as said suburbs may be, from time to time, designated by the Commissioners of the District of Columbia, and of all dead animals within the District of Columbia.

Proposal for the removal and disposal of garbage and dead animals for a period of four years and eight months, beginning November 1, 1895.

WASHINGTON, D. C., June 24, 1895.

GENTLEMEN: The undersigned makes the following proposal for the disposal of all garbage and dead animals, in accordance with the annexed specifications, for a period of four years and eight months beginning November 1, 1895; said specifications being made a part of the proposal:

A. For collecting and removing all garbage within the city of Washington daily, including Sundays, at such times and places as the Commissioners of the District of Columbia deem necessary, and in its more densely populated suburbs three times a week, from April fifteenth to November first each year, and twice a week and daily from hotels and other like places, from November first to April fifteenth each year; and for collecting and removing dead animals within the District of Columbia daily, including Sundays, during the entire year; all garbage and dead animals to be removed to such place or places within convenient hauling distance as may be approved by the health officer for their reception

.....dollars,(\$.....).

B. For destroying by cremation, or reduction, or otherwise disposing of all garbage and dead animals collected, as above specified, or brought by private parties; all work to be done in accordance with plans and specifications submitted herewith, which are hereby made a part of this proposal

.....dollars, (\$.....).

Special attention is invited to section six of the general requirements of proposals. If it is desired by the contractor to whom this work is awarded to dispose of garbage and dead animals at some point not at convenient hauling distance, the Commissioners of the District of Columbia consenting thereto, the undersigned agrees in event such contract is awarded to him to establish and maintain within convenient hauling distance such stations as, in the opinion of the health officer, may be necessary for the reception of garbage and dead animals, and to transfer both to the place of final disposal; all to be done at his own expense.

C. For collecting and disposing of garbage and dead animals, to include all work described in paragraphs above, lettered A and B, subject to all restrictions and conditions applying thereto, fifty-seven thousand dollars (\$57,000) per annum; method of disposal, cremation; the Dixon system, or other system of cremation acceptable to the Commissioners; two plants, and if necessary three plants, complete by October 30, 1895.

JOSHUA N. WARFIELD.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

SPECIFICATIONS FOR THE COLLECTION AND DISPOSAL OF GARBAGE IN THE CITY OF WASHINGTON AND ITS MORE DENSELY POPULATED SUBURBS, AND OF DEAD ANIMALS IN THE ENTIRE DISTRICT OF COLUMBIA.

GENERAL REQUIREMENTS OF PROPOSALS.

1. Bids must be made upon blanks furnished by the Commissioners of the District of Columbia, and must state a gross sum (1) for the collection of garbage and dead animals; (2) for the disposal of the same; and (3) for their collection and disposal. Bids for each item must include all work embraced in the specifications and belonging to that item. Bids will be received for any one or more of the items specified above.

2. Parties making bids must fill up the blanks both in words and figures.

3. All garbage and dead animals must be collected and disposed of in a manner, in the opinion of the health officer, not prejudicial to the public health nor creating a nuisance; the method and plant to be furnished by the contractor to be subject to the approval of the Commissioners.

4. A receipt from the collector of taxes of the District of Columbia for two thousand dollars (\$2,000) must accompany each bid. The deposits of unsuccessful bidders will be returned to them, and that of the successful bidder or bidders will be returned to him or them when the contract has been properly executed; but if such bidder or bidders shall fail, after five days' notice, to execute such contract, then such deposit shall be forfeited to the District of Columbia, as liquidates damages.

5. Bidders or their authorized agents are expected to be present at the opening of bids. Awards will be made as promptly as possible after such opening, but not until it has been shown to the satisfaction of the Commissioners that the method of disposal proposed can be conducted without nuisance or injury to public health.

6. The contractor of the disposal of garbage will be required to build and maintain without cost to the District of Columbia, beyond the price stated in the proposal, a plant or plants of sufficient capacity to dispose of, daily, the entire garbage in the city of Washington and its more densely populated suburbs, as said suburbs may be, from time to time, designated by the Commissioners of the District of Columbia, and of all dead animals within the District of Columbia; said plant or plants to be erected on a suitable site or sites, approved by said Commissioners, and located at convenient hauling distance; the contractor must submit, with his bid, the plan, description, and, more or less definitely, the proposed location of each plant or plants. All garbage and dead animals brought to the plant, or such station or stations as may be designated by the contractor for such work, must be disposed of by the contractor in a manner, in the opinion of the health officer, not detrimental to public health. Bids must state the time necessary to construct the plant or plants to be erected.

If it is proposed to transport garbage and dead animals out of the District of Columbia, the contractor will be required to furnish evidence, satisfactory to the Commissioners, that he has permission from the proper authorities of the State in which it is intended to dispose of such garbage and dead animals, to bring such garbage and dead animals into such State, and there to make such disposal during the entire term of the contract; and that he has permission of all adjacent property owners and occupants that such disposal may be made at the place designated during such period.

All garbage and dead animals must be transported, either within or without the District of Columbia, in covered conveyances satisfactory to the health officer.

7. Ordinarily inspectors will be employed by the Commissioners of the District of Columbia; but if, on account of any apparent disregard of the specifications on the part of the contractor, additional inspectors shall be required, they will be employed by said Commissioners at the rate of \$3 per diem, in such numbers as, in the opinion of said Commissioners, may be necessary, and the cost of the same will be charged to the contractor and deducted from any money due or which may become due to him.

8. Payment for work done will be made monthly, upon requisitions approved by the health officer, provided that the work, in his judgment, is satisfactorily done. The contractor shall file with the Commissioners of the District of Columbia prior to each payment an affidavit, and shall furnish such other evidence as may be required that he has paid in full all accounts against him which were due at the expiration of the period for which payment is about to be made for services and material which were used in the execution of his contract. And if such evidence is not furnished, such sum or sums as may be necessary, in the discretion of the Commissioners, may be retained until such accounts shall be fully satisfied. Contractors must punctually pay the workmen who may be employed by them upon the work under their contract in cash current, and not in what is denominated store pay or orders.

9. Failure to commence work at the time specified, or to prosecute it thereafter in a satisfactory manner, in the opinion of said Commissioners, will be authority for them to suspend the contractor from the work and to employ other parties to complete it, or to wholly annul said contract. All money due the contractor at the date of suspension or annulment will be applied to the conduct of the work, and any excess of cost over and above the amount so retained will be charged against the contractor and his sureties, who will each and severally be held liable therefor.

10. Neither the contract nor any interest therein shall be transferred by the parties to whom the award is made without the written consent of said Commissioners. It will be a condition of the contract that transfers without such consent will be null and void, and the absence of such consent will authorize the Commissioners to annul the contract and to give the work to other parties under the conditions mentioned in paragraph 9 of the general requirements of proposals, provided that the sureties upon the contract do not elect to proceed with the work.

GENERAL REGULATIONS.

1. The term "garbage" wherever it occurs in these specifications shall be held to mean all refuse animal or vegetable matter which has been used or was intended to be used for food for man.

The term "dead animals" shall be held to mean all dead animals or parts thereof not intended for use as food.

2. Garbage shall be called for and removed from all buildings within the city of Washington daily, including Sundays, at such times and places as said Commissioners deem necessary, and in its more densely populated suburbs, as said suburbs may be, from time to time, designated by said Commissioners, three times a week, from April fifteenth to November first each year, and twice a week and daily, including Sundays, from hotels and other like place from November first to April fifteenth each year. All garbage must be collected between the hours of seven o'clock a. m. and six o'clock p. m. Special collections at other hours may be authorized by the health officer. Dead animals shall be collected and removed daily, including Sundays, within the District of Columbia during the entire year.

3. All garbage shall be collected and disposed of in a manner, in the opinion of the health officer, not detrimental to public health, and shall be deposited and disposed of only at such place or places as may be approved by the health officer. The contractor for the collection of garbage and dead animals will be required to deliver to the contractor for the disposal of the same all garbage and dead animals collected by him and will have no ownership in them. Such garbage and dead animals, or any residue or product therefrom, shall be the property of the contractor for the disposal of garbage and dead animal after they have been delivered to him by the contractor for their collection.

4. Garbage will be deposited in water-tight, covered vessels which can be easily and quickly handled by one man, and will be placed at points readily accessible to garbage collectors. Larger receptacles will be allowed in the case of hotels, etc., under such restrictions as the health officer may determine. In event of disputes between householders and the contractor as to the point at which garbage shall be deposited for collection, the case shall be referred to the health officer, whose decision shall be final.

5. Each garbage collector shall notify householders of his approach in such manner as may be directed by the health officer. Collectors will not be allowed at any

time to pick or sort garbage, and must transfer it from the garbage receptacles of the householders to the cart or other vehicle used for collections without unnecessary delay or exposure and without spilling.

6. The contractor shall, before commencing work, subdivide the entire district from which garbage and dead animals are to be collected into collection districts, and shall assign to each collection district a distinctive number, and shall file with the health officer a map showing the boundaries of each district and the number assigned to it. No changes shall be made thereafter in such collection districts except with the written consent of the health officer.

7. The contractor shall, at his own expense, provide telephone connection with the health department, and shall be prepared to receive and promptly execute all orders of the health officer. Upon the failure of the contractor to execute any order for the removal of any dead animal within ten hours, and for the removal of any garbage within twelve hours, after notice from the health officer, said officer shall cause the same to be removed, and shall enter against the contractor the cost of such removal, not to exceed ten dollars (\$10) in any one case, and such cost shall be deducted from any money due, or which may become due, the contractor, and shall be paid to the party making such removal or collection.

The contractor shall report twice a day to the health officer for orders, at such times as the health officer may direct.

8. The contractor shall issue cards, to be approved by the health officer, stating the days for collecting garbage in particular streets and districts, and designating between what hours the collector will call in a special locality. One or more copies of such cards shall be left, between April first and fourteenth each year, at each and every building from which garbage is to be collected, and whenever it is proposed to make any change in the time of making collections, and prior to making such change, one or more copies of such cards, showing the proposed time of collection, shall be left at each building affected; a supply of such cards shall be left at all times at the health office. The contractor may be fined for neglect to serve the cards above referred to five cents for each card omitted to be served, to be deducted from any money due, or which may become due, to him.

9. Receptacles for the collection and removal of garbage, whether cans, barrels, or the body of the cart or wagon, must be of metal, water-tight, strongly built, provided with close-fitting metal covers, and must be kept thoroughly clean; but no receptacle shall be used having a capacity of less than thirty gallons. When in motion on streets or avenues said receptacles shall have their tops entirely and tightly covered, and while being loaded covered not less than one-half.

All carts or other vehicles used in the service must be strongly built and kept thoroughly clean and well painted, and must have the words "Public Garbage Service," and the number of the cart, or vehicle, painted on each side thereof, in letters, four inches in size, to be easily read, and kept clean and always legible.

Vehicles used for the collection of dead animals shall be such as can be quickly loaded, and must be so constructed as to permit the removal of any animal, or part of animal, without offense to the public.

None but strong, servicable horses or mules shall be used in any cart or vehicle, and no person under eighteen years of age shall be employed on the work.

The contractor must present all vehicles used by him for the collection of garbage and dead animals for inspection at such time and places as may be designated by the health officer, and all such vehicles shall be maintained at his expense, in a condition satisfactory to the health officer.

The contractor shall provide and use, at his own expense, such disinfectants as, in the opinion of the health officer, may be needed.

10. The contractor shall not engage in the collection of garbage and dead animals otherwise than as provided in these specifications, and no cart or other vehicle engaged in the public collection of garbage or dead animals shall be employed for any other purpose, except with the written consent of the health officer.

11. Any official or employee using improper language, being under the influence of liquor, demanding pay for services rendered, or falsifying any report he may be called upon to make, shall at once be discharged by the contractor and debarred from further employment on work under the contract.

12. If any of the streets or alleys are obstructed by ice or snow, or from other causes, the contractor shall be required to have the garbage removed to vehicles on streets which are not obstructed.

13. All work shall be done and performed under the supervision of the health officer, or such other officer as said Commissioners shall designate for that purpose, and all details of such work as are not herein particularly specified shall be done in such manner as shall be acceptable to the health officer, or such officer as may be designated.

14. Daily reports, in duplicate, shall be made by the contractor to the health officer, on blanks approved by that official, which shall show the collection district, the

the number of each vehicle employed therein, the number of full or parts of loads of garbage collected therein, and the number of dead animals collected from the entire area from which such collection is required by the contract, and shall also show the number of men and horses employed with each vehicle.

The contractor shall furnish, in writing, such information in reference to the conduct of the work as may be called for from time to time by the health officer.

15. For each complaint of neglect by the contractor of any of the requirements of the contract which, in the judgment of the health officer, is well founded a fine of not less than one dollar (\$1) nor more than five dollars (\$5), except as otherwise specified herein, may be imposed and deducted from any money due, or which may become due, the contractor. The imposing and collecting of any fine will not be construed, however, as waiving the right to annul the contract.

Absence of any employee will not be considered a sufficient excuse for failure to collect, or for improper collection of garbage; the use of unlawful receptacles, or the placing of such receptacle by householders in inaccessible places, will not be considered a sufficient excuse for more than two successive failures to collect garbage at one place, unless the contractor shall have notified the health officer, in writing, of such neglect on the part of the householder prior to the complaint of non-collection.

The contractor will be required to furnish the health officer daily a complete list of all failures on his part to comply with any of the terms of the contract which have come to his notice during the preceding day, and the reason for such failures.

16. From the amount of the contract price for cremation, reduction, or otherwise disposing of garbage and dead animals there may be deducted a sum of not exceeding two dollars and fifty cents (\$2.50) per day, to be paid to a weigher, appointed by said Commissioners, whose duty it shall be to weigh and keep a record of all garbage brought to the establishment for cremation or reduction, and said weigher shall have general oversight of the sanitary condition of the establishment.

ADDENDA.

Section 1, general requirements of proposals: The first line should read "Bids must be made upon blanks furnished by the Commissioners of the District of Columbia, and should state a gross sum *per annum*," etc.

Insert after section 8 of general requirements of proposals the following, viz:

8½. Good and sufficient bond to the United States in a penal sum equal to the annual amount of the contract, with sureties to be approved by the Commissioners of the District of Columbia, will be required from each contractor, guaranteeing that their contract will be strictly and faithfully performed to the satisfaction of and acceptance by said Commissioners.

Second. It is further agreed that the party of the second part shall receive for performing the aforesaid service, complete, the sum of fifty-seven thousand dollars (\$57,000) per annum.

Payments to be made in warrants for cash upon the United States Treasury.

In witness whereof the undersigned, John W. Ross, George Truesdell, and Charles F. Powell, Commissioners of the District of Columbia, appointed under the act of Congress entitled "An act providing a permanent form of government for the District of Columbia," approved June 11, 1878, and the party of the second part to these presents, have hereunto set their hands and seals the day and year first above written.

JOHN W. ROSS, [SEAL.]
GEORGE TRUESDELL, [SEAL.]
CHARLES F. POWELL, [SEAL.]

Commissioners of the District of Columbia.

JOSHUA N. WARFIELD. [SEAL.]

Signed and sealed in the presence of—

ROBERT A. DOBBIN, Jr.,
GEORGE H. GISH,
As to J. N. Warfield.
DANIEL CURRY,
As to Commissioners.

WASHINGTON, D. C., *July 24, 1895.*

GENTLEMEN: I have the honor to submit the following report relative to the investigation of the methods of garbage disposal in Philadelphia, Pa., and Wilmington, Del., made in compliance with your instructions of the 26th ultimo:

PHILADELPHIA.

Philadelphia has tested, through its garbage contractors, eleven methods of disposing of garbage. Only two are at present in operation, the others having been abandoned either for financial or sanitary reasons. One of the existing systems, a crematory, has been in operation about a year; the other, a reduction plant, a much shorter period. For the collection of garbage, ashes, and house waste, all of which is undertaken by the municipal authorities, the city is divided into districts. The contract for each district is let separately, each contractor disposing, as he sees fit, of the material collected by him, subject to the approval of the commissioner of street cleaning, who has supervision over such work. The method of disposal is brought to the attention of the board of health only when it becomes a nuisance.

The Smith crematory (see illustrations, for which we are indebted to the Washington Star) is in operation in two districts, one in the north-eastern part of the city, the other in the very center. The latter, situated at the corner of Twenty-fourth and Callowhill streets, was visited on July 2. Both are exactly alike, and are similar to those in use at Atlantic City, N. J., and Wheeling, W. Va.

The crematory may consist of any number of furnaces arranged in pairs around an apparatus for the generation of the gas used as fuel. Each furnace is an upright iron tank, lined on the inside with fire brick, and is connected, on one side by underground flues, one leading from the gas generator and the other to a chimney common to both furnaces of the pair, and on the other side by a short flue, with the other furnace of the pair. The opening for the reception of garbage is in the top of the furnaces. The ashes are raked out from an opening low down in the side. There is no grate, the garbage resting on the bottom of the furnace and burning only on top. In the flue leading to the chimney is a mass of checkerwork of fire brick, to insure the complete destruction of offensive gas. Valves to control the flow of gas are set in the flues.

The crematory is built so as to allow the carts to drive to the top and dump their contents directly into the furnace, and is not inclosed in a building. Each pair of furnaces is independent of all others. All are dependent, however, on the proper operation of the gas generator.

The operation of any pair of furnaces is as follows: Carts drive to the top of the crematory, depositing all garbage into one furnace, filling it to the proper height. The gas is then made to pass directly from the generator through the flue, where it is mixed with air to support combustion, to the charged (proximal) furnace. The flame attacks the mass of garbage in it, and then passes through the communicating flue into the empty (distal) furnace, and thence to the flue leading into the chimney. The brick checkerwork in this flue is so intensely heated by the flame, and secures by its arrangement such thorough contact with the gases from the garbage, that they are completely decomposed and free from objectionable odor, and so find their way out of the chimney.

While the contents of the proximal furnace are being burned the garbage is emptied into the distal furnace, where it is warmed and partially dried by the flame, which, as has been previously described, passes through this furnace during this time. As combustion progresses

in the proximal furnace the ashes are raked off the top of the mass through the door in the side. When the entire charge has been burned, the direction of the flame is reversed by means of valves, so that it passes into the furnace which has just been filled. This now becomes the proximal furnace and the place of combustion. The other becomes the distal furnace, into which the garbage is dumped, warmed, and partly dried. The direction of the flame may be reversed as often as desired. The operation of the furnace is, therefore, continuous.

The operation of the Smith crematory was witnessed in September, 1894, in Atlantic City, N. J. It had at that time but one pair of furnaces, and was constructed to burn 50 tons of garbage daily. Its capacity has since been doubled. The plant is owned and operated by the city, and has fully demonstrated its ability to burn pure garbage in large quantities and without nuisance. The only objectionable feature at the time of inspection was the leaking of water from the garbage around the lower doors of the furnace, even when closed. This water saturated the soil near by, giving to the place a faint sour smell, characteristic of garbage. The crematory is located in the immediate vicinity of a poor class of dwellings.

The Smith crematory, which was inspected in Philadelphia, is located near the corner of Twenty-fourth and Callowhill streets. It is on ground immediately adjoining large gasometers and gas works, and is surrounded by stores, factories, and dwellings. The crematory has eight large furnaces, and was in active operation at the time of inspection. It is used not only for the destruction of garbage, but also of combustible waste. The proportions of the two classes of materials burned could not be ascertained. One furnace was smoking somewhat, owing to the fact that it had not been used the day before and was just being started. The smoke was, however, from the fuel, not from the garbage, and was not offensive. Here, as in Atlantic City, the water was finding its way through the crevices about the lower furnace doors. The surface about the furnace was covered with asphalt, so that the leakage found its way into the sewer. The combustion of the garbage did not cause any perceptible odor. This furnace had consumed the day previous to my inspection 148 loads of garbage and combustible waste, estimated at 1 ton per load.

As the result of my study and observation, I believe that the Smith crematory can be operated in this city without creating a nuisance. The leakage from the lower doors is, however, a defect which it will be difficult to remedy, as the pressure from the large amount of garbage and water on the inside is very considerable. A moderate amount of such leakage might enter the sewer without harm, but if any is thus disposed of it will be difficult to limit the amount, especially as it is much more economical for the contractor to get rid of it in this way than to destroy it by fire. This crematory is operated by a minimum of labor, and the cost of fuel is said to be small.

The Arnold reduction plant, in Philadelphia, is situated on the Schuylkill, near Grays Ferry, and is almost a quarter of a mile from any dwellings. It is immediately south from the Baltimore and Ohio Railroad Bridge, and can readily be seen from it. The process employed is similar to the one formerly used in this city (Washington) and to the one recently introduced in Boston (and more recently condemned), but has, it is said, certain improvements. It is the Kansas City method referred to in the bid of Mr. Joshua Warfield. The establishment represents an expenditure of about \$80,000, and everywhere shows careful mechanical execution. It is provided with engines, digesting tanks, carriers,

presses, breakers, driers, screens, and electric-light plant and accessories. It is located and arranged so as to receive garbage either from carts or scows.

The garbage received from carts is dumped on a platform just outside of the building. Here it is shoveled into the channel in which the carriers run, bottles, cans, and similar articles being thrown aside by the shovellers so as to prevent them from interfering with the machinery. During this part of the process the water collected with the garbage finds its way, whether intentionally or otherwise, into the river. The garbage is taken by the carriers into the building, where it is lifted by an elevator to the second floor and there taken by a second series of carriers and dumped, automatically, into large tanks for digestion by steam under pressure. When a tank is filled, it is tightly closed and the steam is allowed to enter. When sufficiently cooked the resulting mass passes into a large covered tank made of iron and situated directly below the digesters. From this tank it is drawn as needed between pressing cloths and mats for pressing. The mats when filled are transferred to powerful presses near by operated by steam. All liquid is then squeezed out and flows through channels under the floor into large vats in the same room, where it is allowed to remain until the grease can be dipped off the water, which has settled to the bottom. The floor of the room is of concrete, and is provided everywhere with gutters to carry to the settling tank any liquid accidentally spilled. All grease is collected in a large iron receptacle and barreled and stored in a separate room.

The mass remaining in the oil press, now quite dry and hard, is taken on an elevator to the second floor, where it is partially broken by hand, rags and other foreign substances being picked out at the same time so as not to interfere with grinding. The breaking is completed in a breaker.

The material is then dried on the first floor by steam driers and afterwards ground, screened, and bagged, ready for sale to the manufacturers of fertilizer.

The building is provided throughout with tracks and trucks to facilitate handling all material. Escaping gases from the driers and digesters pass through condensers, but the superintendent of the works did not know whether those not condensed were afterwards burned or not. I saw no evidence of this being done. Refuse water finds its way directly into the Schuylkill.

This establishment is owned by the American Incinerating Company, which formerly operated a crematory near Fifteenth street and Washington avenue. It has been in use but a short time. The material utilized is pure garbage, all combustible waste being separated and burned.

At the time of inspection about two cartloads of garbage were being hauled on the platform, and were neither more nor less objectionable than two cartloads of Washington garbage would be in any locality. The carriers are necessarily filthy whenever in use, and, with the exposed garbage, tankage, and liquid waste, are constant sources of foul odors, to remedy which no provision has been made. Three of the empty digesting tanks were open and steaming, and each carrier on the second floor was dumping on the floor several pounds of garbage that should have gone into the tank. Both of these defects were due apparently to neglect on the part of the employees, but are cited as showing possibilities.

I was unable to learn the capacity of this plant, the cost of manipulating a given amount of garbage, or the value of the product.

The Arnold process of reduction, as represented in the plant above described, may probably be operated without inconvenience to neighbors when located, as this plant is, at a considerable distance from them, but not otherwise.

WILMINGTON.

The Brown crematory has been in use in Wilmington, Del., for nineteen months. It is owned and operated by the municipal authorities, and is under the immediate supervision of the board of health. It is situated about three-quarters of a mile from the center of the city, not far from the Delaware River, in a neighborhood occupied chiefly by manufacturing, etc. Close to it passes a canal, into which empties the drainage from a number of morocco tanneries, and from which emanates a stench worse than anything of the kind in Washington.

The furnace is constructed to burn 50 tons of pure garbage in twelve hours. It is inclosed in an iron building, and is so constructed that the garbage is discharged into it directly from the cart. This furnace is about 30 feet long, 10 feet wide, and 10 feet high. It contains an iron grate of peculiar construction. The furnace is lined inside with fire brick and incased in a water jacket, to prevent overheating of the furnace itself. On top are 10 openings, through which garbage is put in, and on each side, corresponding with these, are 20 openings—10 above the grate, through which the garbage is leveled, and 10 below, through which the ashes are drawn. The chimney is situated at one end and the fire is fed at the same end.

Petroleum is used as fuel. It is stored in a reservoir outside of the building, and is pumped into the burner as rapidly as may be needed. The burner consists of three concentric tubes, through one of which passes the petroleum, through another dry steam, and through the third the hot gases from just above the burning garbage. These combine and give an oxidizing flame of the most intense heat. The burner is situated in the roof of the furnace near the chimney. The same engine which pumps the oil also operates a blower, drawing warm air from inside the building near the roof and forcing it into the furnace in such quantity and at such places as it may be required. The draft within the furnace is directed by the blower, away from the flue, above the grate, and, in order to reach the chimney, passes in the opposite direction underneath.

The carts empty their contents directly into the furnace. Falling on the grate, the garbage is immediately attacked by the flame passing over it, and again below by the flame passing underneath. Any particles of garbage and any liquid passing through the grate, are destroyed by the flame below. The garbage, after it is put into the furnace from the top, may be raked down and distributed evenly over the grate through the openings in the side. The ashes are drawn from the lateral openings below the grate.

The amount of fuel supplied and the draft of the furnace are determined by mechanical means and are independent of atmospheric conditions.

On July 3 I saw four loads of garbage and one barrel of fish put into the furnace and rapidly disappear without creating any odor whatever. The garbage contained a large proportion of water. Some smoke escaped from the openings in the top of the furnace when they

were uncovered for dumping of carts, but this seemed to occur only when openings in the side and top were uncovered at the same time.

Mr. W. C. R. Colquhoun, secretary of the board of health, states that during the nineteen months in which this furnace has been in operation only one complaint against it has been received, and that was found to be due to other causes.

This furnace could, I believe, be operated in any part of this city without nuisance.

ATLANTA.

The Dixon crematory was erected for the city of Atlanta by the Dixon Sanitary Crematory Company, and was first put into operation June 25, 1894. The city was allowed to use the crematory one year before paying for it, and if at the expiration of that time it was not satisfactory the crematory company agreed to remove it without cost to the city. The year expired a week ago and the crematory was inspected two days ago to determine the amount of wear and tear, with a view to making payment. It is situated 3 miles from the center of the city and about 1 mile from the outskirts, near the edge of a tract of land somewhat less than a hundred acres. This land is owned by the city and has long been used as a place of deposit for refuse material of all kinds, including street sweepings, garbage, and night soil, and for stabling all the horses employed in the collection of this refuse. All work of this character, street sweeping, collecting garbage, night soil, etc., is done by the city under the immediate supervision of the board of health.

In order to understand the work of the crematory in Atlanta it is necessary to know that the city collects all house waste, and that, excluding night soil, is separated into two classes only, the ashes being kept in one receptacle and all other waste in the other. The latter receptacle, therefore, contains old paper, pasteboard boxes, parts of wooden boxes, excelsior, animal and vegetable waste, discarded shoes, etc., and the entire mixture, regardless of its component parts, is called garbage. The word garbage wherever used in Atlanta reports refers to this mixed material. The refuse denominated in Washington garbage is known in Atlanta as swill or slops. There is no way of determining or even forming an approximate estimate of the per cent of swill or of combustible and of noncombustible waste collected in the Atlanta garbage. It is impossible to determine, therefore, the amount of swill which this furnace can consume and the amount of fuel required for a given amount of swill, the amount of combustible garbage being an unknown quantity in estimating the amount of fuel. Whether it can consume pure swill at all at a reasonable cost and without nuisance will be considered later.

The crematory in use at Atlanta is 64 feet long, and consists of two independent furnaces each 32 feet in length. It is constructed of brick as far as practicable. For the operation of each furnace three fires are employed, one a coke fire placed in the flue where it will burn all vapors given off from the drying and burning garbage and from the other two fires, which are situated, of course, at the end of the furnace away from the flue, both of coal, one playing above and the other beneath the grate upon which the garbage rests. The carts enter on the second floor of the building and empty the garbage directly on the grate in the furnace through two openings in the top. Each opening is provided with a metal cover, arranged so as to be easily handled by one man.

The ashes from the garbage are drawn on the first floor through doors in the sides of the furnace. All furnace fires are fed and drawn on this floor. The stack of the furnace is of brick and is 60 feet high.

The operation of the furnace is as follows: The fires are started about 7 o'clock a. m. About 8 o'clock the garbage carts begin to arrive, and, driving up an inclined plane, enter the second floor of the building, emptying their loads into the furnace and immediately leaving. The character of this garbage has already been referred to. The liquid portion of the swill is so absorbed by the paper, etc., that the entire mass is readily carried in ordinary carts without dripping or creating a nuisance. When it is dumped on the grate it is with no free water and contains a large amount of combustible matter. It is readily consumed by the flames playing above the grate and rapidly eating their way through the mass. Any particles finding their way unburned between the grate bars are consumed by the flames from the lower fire, which play beneath the grate. The fumes created by both fires find their way into the flue, passing into the coke fire before making their exit. This fire serves the double purpose of maintaining a draft through the furnace to maintain the fires and to suck in the emanations from garbage and night soil while it is being dumped, and of preventing the escape of foul gas and dust by burning them.

In order to burn the night soil it is emptied on top of a very hot mass of garbage. The garbage packs in the furnace while being burned, so that the night soil can not very rapidly find its way through below the grate. The percolation through is further prevented by the baking of the lower layer of night soil on contact with the burning garbage. The semi liquid excrement rests above the grate until the water is evaporated and the solid portions burned, all escaping gases passing into the fire in the flue before reaching the open air.

Dead animals are simply thrown into the furnace on top of the burning garbage. At present, on account of the inability of the crematory to burn all the city's garbage and night soil, the larger dead animals are disposed of at a bone-boiling establishment outside city limits.

Three men are required to operate this furnace while garbage, etc., is being delivered (7 a. m. to 5 or 6 p. m.), two from the time delivery ceases until the charge is practically burned out (5 or 6 p. m. to about 12 p. m.), and one from that time up to beginning of the next day's work. Once a week it is necessary to allow the fires to go out and to remove such substances as wire and tin from the grate.

It has been reported that suits were pending to compel the discontinuance of the use of this crematory. The suits which have given rise to that report were not directed against the crematory itself. One sought to restrain the city from using the tract of land upon which the crematory is situated for its present purposes, viz, the deposit of refuse matter. This would have prevented indirectly the use of the crematory, but that was not its main object. The suit was unsuccessful. Later an attempt was made to recover damages from the city on account of the alleged nuisance arising from the dump. This case has been tried very recently, and, after hearing testimony for five days, the judge dismissed the suit. As neither case was successful, it is of no great importance, yet it may be worth while, in passing, to note that on the ground which occasioned these suits there is dumped daily, without burning, about 310 loads of garbage and street sweepings, and there is pitted 300 barrels of night soil—this in addition to 70 loads of garbage and 120 barrels of night soil which are burned. There is daily deposited

here about 192 tons of waste matter of all kinds and 420 barrels of night soil. The city is at present arranging to secure crematory capacity enough to cremate all garbage and night soil. Dr. J. F. Alexander, president of the board of health; Dr. F. W. McRae, its secretary, and Thomas E. Veal, chief inspector, state that the Dixon crematory meets perfectly all conditions existing in Atlanta, and they are each of the opinion that it can be operated in any part of the city without creating a nuisance.

My own observations of the operation of the furnace are as follows: Arriving in Atlanta about 5 o'clock p. m. June 26, I went at once to the crematory without announcing my coming. There was absolutely no odor to be smelled while approaching the building. The only odor to be perceived inside was that usually attached to intensely heated furnaces and a very slight odor of smoke at times. Not the slightest objectionable odor could be detected, even on opening the furnace, although it contained a mass of night soil recently introduced. A large dog was thrown into the flames, but without giving the slightest odor of singeing hair or burning flesh. Desiring particularly to see the character of "garbage" burned, I visited the crematory again about 11 o'clock the following morning. But few carts were coming in, so that I saw but one load dumped, and that consisted almost entirely of excelsior, paper, etc. I saw no swill in it. On this occasion I witnessed the emptying into the fire of ten barrels of night soil, no offensive odors being discernible a few feet away. Only a small amount of smoke escaped from the chimney at any time. Everything drawn from the furnace was thoroughly burned.

From the foregoing it will be seen that the problem which has been solved in Atlanta is very different from the one to be solved here. Representations which have been made as to the possibilities of the Dixon crematory in the way of destroying garbage must be considered as referring to the garbage of Atlanta and not to the swill of Washington. This matter was carefully gone over with Mr. H. A. Andrews, manager southern department Dixon Sanitary Company. I am of the opinion, and in this Mr. Andrews agrees, that the Dixon crematory could not be satisfactorily operated in Washington for the following reasons:

1. The free water collected with swill would find its way through the grate and seriously interfere with, if not extinguish, the lower fire.
2. The small particles of swill would pass between the grate bars in considerable quantities, and, being constantly soaked by water from above, would not be consumed by the lower fire, if such fire could be maintained.
3. The swill resting on the grate would be a solid mass, incombustible until it dried, which process would take a long time, as the flame would only attack the surface and not eat its way through and through, as in Atlanta garbage.
4. The absence of the large amount of combustible material, such as is found in the Atlanta garbage, would necessitate the purchase of a much larger amount of fuel. While under the Atlanta system the fuel is evenly mixed with the garbage, in Washington it could only be applied at one end. This, too, would necessitate further increase in the amount of fuel used, the flames having to pass 25 feet to cover the garbage.
5. Night soil would find its way through the grate too rapidly to be burned, having no absorbent bed, as paper, etc., to retain it.

ALLEGHENY.

Allegheny and Pittsburg each own and operate one furnace of the Rider type. A description of this furnace and its method of operation, by Prof. C. H. Haswell, is submitted herewith.

PRIVATE COLLECTION.

In Allegheny each householder is compelled, by the absence of any public collection, to employ his own collector. These collectors deliver the material collected to the public garbage furnace, where it is burned. Its character varies, according to the locality from which it is collected, containing a certain amount of house and shop refuse. An effort is made to throw aside all tin cans, bottles, and old iron, as they interfere more or less with the destruction of the other waste.

The furnace is located on the Allegheny River, on River avenue between Seventeenth and Eighteenth streets, in the neighborhood of canning establishments, tanneries, and a low grade of dwellings. It is operated sixteen hours each day, requiring two shifts of men of two each, and is said to require but 1 bushel of coal to each ton of material burned.

The plant was visited on July 11. After witnessing for a while the destruction of ordinary city waste, previously described, barrels filled with material more nearly resembling our own garbage were emptied into the furnace, and after this 12 barrels of exhausted tan bark, fresh and damp from the vat of a neighboring tannery, and further wetted by the addition of water just before being put into the furnace. The combustion was rapid and complete, nor was there discovered during the entire operation the least objectionable odor. The ashes drawn were clean and odorless.

Dead animals of the smaller sorts have been burned, but none of the larger ones, the construction of the present furnace not permitting it without undue mutilation of the carcass in order to put it through the 15-inch openings in the top.

This furnace has been in operation about six years. Inquiry at the health department elicited the information that its operation during that period had been satisfactory, both as to the cost and character of the work done.

PITTSBURG.

Pittsburg inaugurated a public garbage collection a few weeks ago, collecting as far as possible nothing but pure garbage. The furnace here is located on the line of the Panhandle Railroad, at the intersection of Hill and Shingless streets, in a neighborhood but sparsely settled and occupied by foundries and a few poor people. It has been in operation eight years.

The fuel used is natural gas, and the material burned is pure garbage. The furnace is operated constantly, material being piled in bins during the day to be burned at night. A residue is left each day and the week's accumulation is burned Sunday. Certain waste of a more or less combustible character is sorted from the rest and burned in a heap just outside the crematory proper, filling the surrounding atmosphere with smoke.

Absolutely nothing good can be said of the sanitary features of this establishment. The crematory is certainly overworked, and, it is alleged by those interested in the Rider patent, badly managed. The ashes

are drawn before they are thoroughly burned and dumped in a pile near by. In places on this heap innumerable maggots were feasting on what the fire had been allowed to pass over. The trash burned near by, the tons of garbage piled in the bins, barrels of spoiled meat on the platform, and the festering ash heap, all served to pollute the atmosphere. There was no odor perceptible from the furnace itself, but it is extremely doubtful if such an odor, if it existed, could be identified among the numerous others.

In justice to the bureau of public health, and in vindication of the furnace, it should be stated that more than a year ago Mr. T. W. Baker, superintendent of the bureau before mentioned, urged an increase in crematory capacity.

The work done by this furnace was, I am satisfied, done as well as it was possible for any furnace to do it under existing conditions. I do not feel justified, however, in forming any opinion as to their ability to burn such garbage as is collected in Washington.

AMERICAN REDUCTION PROCESS.

An elaborate plant, intended to handle some of the garbage of Pittsburgh, is at present in the course of erection on the Monongahela River, near the intersection of Second avenue and Soho street. Garbage is to be introduced into large iron tanks, digested with sulphuric acid and steam, the grease drawn off, and the residue passed, without exposure to the atmosphere, into steam-jacketed driers, where it is mixed with more sulphuric acid and with phosphate. The whole mass is then dried, pulverized, and screened, when it is ready for sale as finished fertilizer. Waste water is discharged into the river. Gases are condensed when possible, those which can not be condensed being decomposed by heat.

An experimental plant of this type has been in operation in Brooklyn, and a plant is being erected in Philadelphia for the reduction of a part of the garbage there, but up to the present time this method has never been operated on anything but an experimental basis.

CINCINNATI.

Garbage and dead animals in Cincinnati are collected by the city and carried to a wharf on the Ohio River at Sixth and Front streets, where they are deposited on scows, the garbage to be taken to the reduction works, about 5 miles down the river, and the dead animals to a rendering establishment, a mile below. The former is somewhat more than 6 miles from the Union Station on the line of the Baltimore and Ohio Southwestern Railroad. Both are beyond the jurisdiction of the health officer of Cincinnati.

The garbage is disposed of by a contractor by the Simonin reduction process. In order to investigate the establishment it was necessary to go by rail to Tell Cottage, 6 miles from the station, and to walk a short distance beyond. There are but few residents in the neighborhood, and these are of a middle class.

After the scows are made fast to the wharf the garbage is carried up an incline about 500 feet and emptied into large wooden storage bins. A man on the scow picks out tin cans, etc., as the garbage is unloaded, receiving as compensation the cans he recovers. From the bin the garbage is taken as rapidly as possible and spread in iron frames, so arranged as to prevent packing. The frames when full are put into iron cylinders,

placed horizontally, and containing a steam coil. When this cylinder is fully charged, it is hermetically sealed and warm naphtha pumped in from a tank outside the building. Steam is then introduced into the steam coil and the naphtha and water in the garbage distilled over into a condenser, where they are condensed and the water separated from the naphtha. The grease which has been dissolved by this treatment settles to the bottom of the cylinder. This process is repeated several times, or until the naphtha passes into the condenser with no admixture of water, usually taking about twenty-four hours. Live steam is then admitted to the cylinder into the garbage to "cut" any remaining naphtha. The grease which has settled to the bottom is pumped into a grease settling tank, and later the separated grease is drawn into a grease storage tank.

The garbage, now free from grease and perfectly dry, is drawn from the cylinder and taken into another building, where it is freed from any remaining tin cans, rags, etc., these articles being burned outside or otherwise disposed of, the remainder being ground and sold to manufacturers of fertilizer for mixture with phosphates. This establishment handles about 40 tons of garbage per day, said to be equal to 60 tons of city garbage, the loss being due to seepage during collection and transportation prior to delivery into the receiving bins. It has been in operation about two years.

The odors from this place were marked 500 feet away in the direction in which the wind was blowing, and the establishment, in my judgment, constituted a nuisance. This is not due to any defect in the Simonin system, but to the cheap construction of the plant, no provision whatever having been made for the artificial ventilation of the building so as to carry off and destroy odors. This is explained by the fact that the contractor has a losing contract, and that the building is situated practically in the country, where attention to such matters is not so important. Further reference to this will be made when speaking of the Merz process. The Simonin process is in operation in New Orleans, where there is a much better plant.

ST. LOUIS.

The most complete garbage plant of the Merz reduction process type, and, it is claimed, of any type, is located in St. Louis.

Here the garbage and dead animals are collected by one contractor and disposed of by another, but as the former is a stockholder in the company holding the latter contract, there is no friction. The dead animals are rendered in North St. Louis at an abandoned Merz plant, and the garbage at the new plant in South St. Louis, located on the Mississippi River between Marine and Missouri avenues, Osage and Gasconade streets. It is in a sparsely settled part of the city, about 3 miles from the Union Depot. This plant has been in operation about a year and a half, the one in North St. Louis having been in operation about two and a half years prior to that time and having been abandoned because it was worn out.

The plant in South St. Louis represents an expenditure of \$280,000, and reduces at present about 180 tons of garbage per day.

The material is dumped directly from the carts into large iron receiving tanks. From these it is drawn as needed, the tin cans, etc., picked out, and the residue put into driers and dried by steam. It is then passed into a coarse screen and any remaining tin cans, etc., removed, the remainder being milled and then passed into large iron tanks, where

the grease is extracted by means of naphtha. This grease is collected in grease-storage tanks, and the residue, known as tankage, bagged for sale to manufacturers of fertilizer, as in the Simonin process.

Gases arising in the course of this process are passed through condensers, and the noncondensable portions passed through the furnace.

Bathrooms and lockers are provided for employees and each one is required to bathe and put on clean clothes before leaving the premises.

Throughout the entire establishment, wherever garbage or its products are exposed to the atmosphere, are large ventilating flues, into which all foul gases are drawn by means of fans. These gases are carried through the fires under the boilers and are there decomposed. A separate sewer has been laid directly into the river, it having been found impossible to use the public sewer without creating a nuisance. This, it is claimed, is not due to odors from the reduction plant, but to the hot water from that plant setting free foul gases from materials deposited in the sewers elsewhere.

The board of health pays but little attention to complaints against this establishment, not regarding them as well grounded. Efforts have frequently been made to have the place closed by the court, but have failed, except in one instance, when a temporary restraining order was secured. Some of the local newspapers are bitter in their opposition to it. Those interested in the contract claim that there is no nuisance, but that the complaints are made to secure political capital against them. The opponents (neighbors) of the establishment claim that there is a nuisance, and that the contractor has political influence enough to prevent its abatement.

At the time of making inspection the factory was engaged in ordinary daily work. Outside of the building no odor could be detected. Inside, in places, it was quite foul. The sanitary condition, so far as the public is concerned, depends on the system of ventilation, and not on anything peculiar to the Merz process. All windows and doors, except a few on the side from which the wind blows, are kept closed.

CONCLUSIONS AS TO THE SIMONIN AND MERZ REDUCTION PROCESSES.

I am unable to find that either of these methods has any sanitary advantage over the other, except that possibly there is a little more handling of the raw garbage by the Simonin process.

Of the two establishments, the Merz at St. Louis was, of course, far superior to the Simonin at Cincinnati. It should be remembered that this is the very best Merz plant, while the best Simonin plant (at New Orleans) was not visited. This superiority was secured by the liberal expenditure of money to secure a good building and the best appliances of all sorts. Under similar circumstances I believe that the Simonin process would show equally good sanitary results.

Neither of these processes could be operated in this city without means for condensing or decomposing all offensive gases, including those arising from the garbage itself while being dumped from the carts, and from its products wherever exposed to the atmosphere. I would recommend that in any such establishment all ventilation be secured by flues for that purpose and not by the windows or doors, and that all air from the foul-air ducts be exposed to fume cremators of some kind.

With these precautions I think that either the Simonin or Merz process could be operated in this city without nuisance, if under rigid supervision of a competent superintendent.

THE ENGLE CREMATORY.

The Engle crematory has been used in this country for the destruction of garbage longer and more extensively than any other. It has been modified from time to time with a view to improvement, and reached its highest development in the furnace constructed on the World's Fair grounds for the destruction of garbage, combustible waste, and sewage sludge therefrom.

This furnace was constructed so that material to be burned could be dumped into it from the carts or wagons through openings in the top. Within the furnace it rested on a grate. Combustion was secured by means of three fires fed with oil, one situated above the grate, near the chimney, and directed toward the other end of the furnace; a second situated below the grate, at the end of the furnace away from the chimney, and directed toward the chimney, and a third in the flue or chimney to destroy any foul gases escaping from the other fires. After the furnace was fairly operating it was found unnecessary to burn any but the first fire.

There are several varieties of the Engle crematory, the variations having reference to the number of fires used, the course taken by the heat from them, and the arrangement of the grate. Oil, gas, or coal may be used in them. Fire brick checkerwork is introduced in the chimney to secure complete combustion of gases, etc., before they leave the flue.

When it is expected that a large amount of water will have to be dealt with, a fire-brick hearth with raised edges is built between the grate and the bottom of the furnace, and is so arranged that the heat passes both above and below.

The operation of the Engle furnace was witnessed at Coney Island and at the New York Hospital. The former, situated in a sparsely settled region, has been in operation about six years, destroying daily during the summer season about 10 or 15 tons of garbage and small dead animals. The latter, situated in the courtyard of the hospital, in the heart of New York City, destroys each night about 1 ton of garbage from the hospital kitchen. It has been in operation about eighteen months. Both of these furnaces were in operation at the time of inspection, and were, from a sanitary standpoint, perfectly satisfactory.

The Engle crematory can, in my judgment, be operated in this city without creating a nuisance. A fume cremator should be provided, however, as in the World's Fair furnace, to aid in securing perfect combustion of outgoing gases.

THE BROWNLEE CREMATORY.

The Brownlee crematory resembles very closely, in general principles, the Dixon. It is so arranged that material to be burned is dumped into openings in the top, falls on a grate, and is subjected to the action of a fire passing over it away from the flue and a second fire passing under it toward the flue. A third fire is located in the flue to destroy offensive effluent gases. The bottom of the furnace is filled with sand to absorb water finding its way through the grate, so as to permit its slow evaporation.

Its operation was witnessed at New Brighton, Staten Island. The furnace here had been in operation about two weeks. At the time of inspection it was burning combustible waste, garbage, and a dead horse,

and did not emit any offensive odors. Similar furnaces are in use in Terre Haute, Ind., and Gainesville, Tex.

The furnace can, in my judgment, be operated in this city without creating a nuisance.

ROTARY CREMATORY.

For want of a better name, I have designated as above a furnace the plans for which were examined in New York City. The essential part of the scheme was a cylinder, 60 feet long and 5 feet in diameter, constructed of iron and lined with fire brick. This was placed horizontally, with a slight fall from the opening at which the garbage was introduced and arranged so as to be revolved on its long axis. It is proposed to use pulverized fuel, feeding it by a blower over a fire and into the upper end of the cylinder. At the lower end is a pit for ashes and a fire to destroy foul gases.

It is proposed to discharge the garbage directly from the cart into the upper end of the cylinder. This is to be constantly revolved by means of an engine, and the garbage kept in constant motion (rolled, as it were) until it reaches the lower end of the cylinder in the form of ashes, and is discharged into the ash pit.

The idea is similar to that in use for roasting ores, but has never been practically applied to the incineration of garbage.

CAMDEN, N. J.

An inspection of the operation of a furnace in burning garbage was made at the recently constructed Dixon crematory at Camden, N. J. The material burned approximated more or less closely the garbage of this city. From a sanitary standpoint the test was successful. The question of free water in garbage will be referred to in the summary.

BLISSVILLE, LONG ISLAND.

The improved Merz system is being tried experimentally at Blissville, Long Island, by the Merz Company. It closely resembles the Arnold process. The garbage is dumped into iron tanks, where it is digested by steam and grease extracted. It is, when removed from the tank, sterile and practically dry. Tin cans, etc., are picked out and the tankage pressed to remove the remaining grease and water. The residue is dried by steam and ground for fertilizer. This is superior to the Arnold process because of the dry condition of the garbage when removed from the digesting tank, which permits it to be sorted (tin cans, etc., removed) with a minimum of nuisance and no danger of contagion.

This process might be operated in this city without nuisance under the conditions specified in my report on the Simonin and Merz reduction systems.

SUMMARY.

The following reduction processes have been examined: The American reduction, the Merz, the improved Merz, the Simonin, and the Arnold processes. Each of these has for its object the extraction of grease and the preparation of the residue, known as tankage, which is used for mixing with phosphate for purposes of making marketable fertilizer. In the American reduction process the phosphate is added to the tankage during the course of reduction. In the others the tankage is sold to dealers in fertilizer, to be mixed by them. The extraction of grease is accomplished in the Simonin and Merz by naphtha,

in the Arnold and improved Merz by steam, and in the American reduction by steam and sulphuric acid. In the Arnold and improved Merz heavy presses are used to remove from the tankage as much water and grease as possible.

All of these processes involve a certain amount of handling of the garbage, grease, and tankage, with the odors incident thereto. The method by which these odors may be cared for has been indicated previously in this report, namely, their destruction by fire. This is an expensive procedure, requiring the construction of a special ventilating apparatus and the maintenance of ventilation by mechanical means. In a properly constructed building, with suitable apparatus of this kind, and under rigid supervision, it might be possible to maintain a reduction process with as little nuisance as it is possible to maintain a crematory.

The following crematories have been inspected: The Rider, Engle, Brown, Smith, Dixon, and Brownlee. The Rider differs from the others in principle, garbage being introduced and burned in a furnace without a grate, being decomposed by heat and the products of decomposition utilized as fuel.

The Smith apparatus also burns the garbage in a furnace not provided with a grate by the direct application of heat, the water in the garbage in this case finding its way to the bottom and leaking through the doors there. The Brown, Engle, Dixon, and Brownlee furnaces are each provided with a grate, and are arranged for the application of heat both above and below the garbage. The differences between these furnaces are those of construction rather than principle. In the Brownlee, Engle, and Dixon furnaces a special fire is maintained in the flue in order to decompose noxious gases before they make their exit from the chimney. In the Brown this is not done, not being regarded as necessary. Mr. Brown, however, expresses his intention to introduce such fires should he be awarded the Washington contract for constructing furnaces in this city.

In the selection of a method for the disposal of garbage, and in consideration of the methods which have been examined, it is necessary to separate the nuisance which may arise from the improper management of a properly constructed crematory or reduction plant and that which must necessarily arise owing to the method itself. Any one of the reduction processes which I have examined is in itself a nuisance. Any of them may, in my judgment, be maintained in this city in a tightly constructed building with a perfect system of artificial ventilation and decomposition of noxious gases by means of fire. This, it will be observed, is not a part of the reduction process, but a method especially provided for preventing nuisance arising from that process, and is equally applicable to all. The Rider crematory has not been examined while burning pure garbage, such as is collected in this city. It differs so in principle from all others that I do not feel warranted in expressing an opinion as to its merits. The Smith crematory will successfully destroy garbage, and its only defect, the leakage of water, has been referred to above. The Engle and Brown crematories have both been employed to destroy such garbage as is collected here, and have done so successfully. Neither the Brownlee nor the Dixon have been examined while employed for this purpose, but from their resemblance to the Engle and Brown crematories I think they might probably, with a few slight modifications, be so employed.

As the result of my investigations I am of the opinion that the Engle, Brown, Brownlee, and Dixon furnaces might be used in this city for the destruction of garbage without creating a nuisance.

It will be noted that the odor arising from the garbage while being handled in crematories is drawn by the draft, in any properly constructed furnace, into the fire and there destroyed, thus accomplishing, naturally and without material expense, what in the reduction process has to be done artificially and at some cost.

That it is necessary to provide some special means of caring for the free water collected with the garbage, as suggested in my report on the Dixon crematory, is shown by the fact that such means are provided in the Engle and Brownlee crematories.

Very respectfully,

WM. C. WOODWARD, M. D.,
Health Officer.

The COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

**PROPOSAL FOR THE INCINERATION OF GENERAL REFUSE FOR
A PERIOD OF FOUR YEARS, BEGINNING JULY 1, 1896.**

OFFICE OF THE COMMISSIONERS OF
THE DISTRICT OF COLUMBIA,
Washington, February 13, 1896.

SIR: The Commissioners of the District of Columbia desire to have the general refuse of the District disposed of by incineration, and will shortly present the matter to Congress with a request for an appropriation for that purpose. At the present time, and in the absence of any such appropriation, they are not authorized to enter into contract nor to obligate themselves in any manner in reference thereto. In order, however, to forward to Congress, with the request for such appropriation, a more or less definite statement as to the cost, etc., sealed proposals for the incineration of such material are invited and will be received at this office until 12 o'clock noon, Wednesday, February 26, 1896.

Respectfully,

JOHN W. ROSS,
GEORGE TRUESDELL,
CHARLES F. POWELL,
Commissioners of the District of Columbia.

*Proposal for the incineration of general refuse for a period of four years, beginning
July 1, 1896.*

WASHINGTON, D. C., 1896.

To the COMMISSIONERS OF THE DISTRICT OF COLUMBIA.

GENTLEMEN: The undersigned makes the following proposal for the incineration of general refuse, in accordance with the annexed specifications, for a period of four years, beginning July 1, 1896, said specifications being made a part of the proposal.

PROPOSAL I.

For incinerating, in accordance with the annexed specifications, all general refuse collected, as nearly as may be, in that portion of the District of Columbia lying north of the Mall and the Potomac River and west of Seventh street west and Brightwood avenue, and delivered at a crematory to be erected by the undersigned, dollars (\$.....) per annum.

The undersigned proposes to erect a crematory, located within days after the execution of the contract if awarded to him.

PROPOSAL II.

For incinerating, in accordance with the annexed specifications, all general refuse collected, as nearly as may be, in that portion of the District of Columbia lying north of the Mall and East Capitol street and of a line prolonged eastward in the direction of that street to the eastern boundary of said District, and lying east of Seventh street west and of Brightwood avenue, and delivered at a crematory to be erected by the undersigned, dollars (\$.....) per annum.

The undersigned proposes to erect a crematory, located within days after the execution of the contract if awarded to him.

PROPOSAL III.

For incinerating, in accordance with the annexed specifications, all general refuse collected, as nearly as may be, in that portion of the District of Columbia lying south of the Mall and East Capitol street and of a line prolonged eastward in the direction of that street to the eastern boundary of said District, and delivered at a crematory to be erected by the undersigned, dollars (\$.....) per annum.

The undersigned proposes to erect a crematory, located within days after the execution of the contract if awarded to him.

PROPOSAL IV.

For incinerating, in accordance with the annexed specifications, all general refuse collected in the District of Columbia and delivered at crematories to be erected by the undersigned, dollars (\$.....) per annum.

The undersigned proposes to erect¹ crematories located² within days after the execution of the contract if awarded to him.

Signatures. {
.....
.....
.....

SPECIFICATIONS FOR THE INCINERATION OF GENERAL REFUSE.

1. Bids must be made upon blanks furnished by the Commissioners of the District of Columbia, and may embrace one or all of the proposals stated herein.

2. Each bidder must state the amount of his bid both in words and figures.

3. All general refuse brought to the crematory from any part of the district or districts specified in the bid must be disposed of in a manner, in the opinion of the health officer of said District, not creating a nuisance, nor prejudicial to public health. The contractor shall not use any means whatsoever to induce persons to dispose of general refuse so as to diminish the amount that will be brought to his crematory.

4. The contractor will be required to build and maintain, without cost to the District of Columbia, beyond the price stated in this proposal, a plant or plants of sufficient capacity to incinerate daily all general refuse brought thereto from any part of the district or districts named in his contract; said plant or plants to be erected on a suitable site or sites, approved by said Commissioners, and situated in the district or districts aforesaid, the location or locations proposed to be more or less definitely designated in the proposal. Each bidder must state in his bid the number and kind of furnaces which he proposes to erect, and the length of time necessary for their erection, and must furnish such information relative thereto as may from, time to time, be required by said Commissioners.

5. All general refuse brought to the crematory, and any residue or product therefrom, shall be the property of the contractor; provided, however, that articles of special value (as silverware, etc.), shall be held by him for a period of six months, subject to the claim of the owner, and that a description of such articles, their origin and disposition, shall be recorded by him in a book kept for that purpose. The contractor shall not, however, sell or otherwise dispose of any material brought to his crematory, until such material shall have been incinerated or disinfected (as provided herein) to the satisfaction of said health officer.

6. Payment for work done will be made in equal monthly installments, upon vouchers approved by the health officer, provided that the work, in his judgment, has been satisfactorily performed.

7. The contractor must punctually pay the workmen who may be employed by him upon the work under his contract in cash current, and not in what is denominated store pay or orders.

8. The Commissioners of the District of Columbia reserve the right, in event of claims being presented to them against the contractor, for services rendered or materials furnished for work under this contract, to suspend payment of the amount in dispute pending settlement between the parties interested.

9. Failure to commence the work at the time specified, or to prosecute it thereafter, in the opinion of said Commissioners, in a satisfactory manner, shall be authority for said Commissioners to suspend the contractor from the work and to employ other parties to complete it, or to wholly annul said contract; all money due said contractor at the date of suspension or annulment will be applied to the conduct

¹ Insert number and name of crematories to be erected.

² Insert proposed location of each.

of the work, and any excess of cost over and above the amount so retained will be charged against the contractor and his sureties, who will each and severally be held liable therefor.

10. Neither the contract nor any interest therein shall be transferred by the party to whom the award is made without the written consent of said Commissioners. It will be a condition of the contract that transfers without such consent will be null and void, and any transfer or transfers made in the absence of such consent will authorize said Commissioners to annul the contract and to give the work to other parties (provided that the sureties upon the contract do not elect to proceed with it), all money due the contractor at the time of such annulment to be applied to the conduct of the work, and any excess of cost over and above this amount to be charged against the contractor and his sureties, who will each and severally be held liable therefor.

11. Good and sufficient bonds to the United States in a penal sum equal to the annual amount of the contract, with sureties to be approved by said Commissioners, will be required from each contractor guaranteeing that his contract will be strictly and faithfully performed to the satisfaction of and acceptance by said Commissioners.

12. The Commissioners of the District of Columbia reserve the right to reject any and all bids.

GENERAL REGULATIONS AS TO WORK.

1. The term "general refuse" wherever it occurs in these specifications shall be held to mean refuse matter of all sorts, including leaves and branches of trees, and excepting (1) garbage and dead animals, (2) night soil and dung of all sorts, (3) street sweepings, and (4) ashes, plaster, and earth.

2. All general refuse brought to the furnace or furnaces from any part of the district specified in the contract shall be incinerated on the same day on which it is received, except as otherwise particularly specified herein.

Tins, cans, bottles and other articles of metal, crockery ware or glass may be removed from the general refuse if it be done without delaying the incineration of the other refuse and if they be immediately subjected to disinfection, satisfactory to said health officer.

Leaves and branches of trees may, with the written permission of said health officer, be retained beyond the day on which they are received.

3. The contractor will be required to receive at the furnace all general refuse offered between 8 o'clock a. m. and 8 o'clock p. m. of each week day, and during such other time as may for any special reason be deemed by said Commissioners necessary.

4. All work shall be done and performed under the supervision of said health officer, and all details of such work as are not herein particularly specified shall be done in such manner as shall be acceptable to said health officer.

5. The contractor will be required to make, in writing, daily reports to said health officer, showing the quantity (by weight) of general refuse received, and to furnish, in writing, such further information in reference to the conduct of the work as may, from time to time, be required by said health officer.

6. In event of any apparent disregard of the specifications on the part of the contractor an inspector may be employed by said Commissioners, at the rate of \$2.50 per diem, the cost thereof to be charged to the contractor and deducted from any money due or which may become due to him.

1192 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

Schedule of proposals for the incineration of general refuse for a period of four years, beginning July 1, 1896. Opened February 26, 1896.

PROPOSAL NO. 1.¹

Bidder.	For incinerating all general refuse.	Name of crematory.	Location of crematory.	Days required for erection of crematory after execution of contract.
Frederic Kohlmeyer...	\$20,000	Rider garbage	At a site to be mutually agreed upon.	60
J. H. Mowbray and G. S. Baillie.	5,000	Vivarrrtas.....	do	30
Joshua N. Warfield....	4,000	Brown or other plant...	West of Twenty-first street NW.	90
R. H. Hood	9,995	.....	South of C street and west of Eighteenth street NW.	55
Geo. C. Deno.....	10,000	Colwell	C between Twenty-first and Twenty-second streets NW. or other locality.	60

PROPOSAL NO. 2.²

Frederic Kohlmeyer...	\$2,000	Rider garbage	At a site to be mutually agreed upon.	60
J. H. Mowbray and G. S. Baillie.	4,000	Vivarrrtas.....	do	30
R. H. Hood	11,995	.....	Two furnaces; one south of C street and west of Eighteenth street NW., and one south of M street and west of navy-yard SE.	(?)
Geo. C. Deno.....	8,000	Colwell	On square 1111 or 1121, or other location.	60

PROPOSAL NO. 3.³

Frederic Kohlmeyer...	\$20,000	Rider garbage	At a site to be mutually agreed upon.	60
J. H. Mowbray and G. S. Baillie.	4,000	Vivarrrtas.....	do	30
Joshua N. Warfield....	4,000	Brown plant.....	Foot of South Capitol street.	90
Geo. C. Deno.....	6,000	Colwell	First street, south of O street SW., or other location.	60

PROPOSAL NO. 4.⁵

McCoy & Co.....	\$10,000	2 McCoy crematories....	At such places as may be mutually agreed upon.	90
Frederic Kohlmeyer...	8,000	3 Rider garbage.....	do	60
J. H. Mowbray and G. S. Baillie.	13,000	As many Vivarrtas furnaces as may be required.	do	30
Joshua N. Wakefield ⁶ .	15,000	No. 1 Brown's. No. 2 Brown's or other system.	Foot of South Capitol street: west of Twenty-first street NW.	90
R. H. Hood.....	15,995	3 furnaces	One south of C and west of Eighteenth street NW.; one south of M and west of navy-yard SE.; one in vicinity of Trinidad NE.	(?)
Geo. C. Deno ⁸	22,000	A. Colwell crematory...	One on C west of Twenty-first street NW.; one on First south of O street SW.; one on square 1111 or 1121.	60

¹ Collected in that section lying north of the Mall and the Potomac River and west of Seventh street west and Brightwood avenue.

² Collected in that section lying north of the Mall and East Capitol street and east of the eastern boundary and lying east of Seventh street west and Brightwood avenue.

³ One in fifty-five days, and others twenty-five days thereafter.

⁴ Collected in that section lying south of the Mall and East Capitol street and east of the eastern boundary.

⁵ Collected at crematories to be erected.

⁶ The same plant to be used for the disposal of garbage and dead animals.

⁷ One within fifty-five days and any other within twenty-five days thereafter.

⁸ The three plants will be sold to the District at 20 per cent over cost of erection.

LAWS AND REGULATIONS RELATING TO THE PUBLIC HEALTH.

[PUBLIC—No. 99.]

AN ACT to provide for the incorporation and regulation of medical and dental colleges in the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any medical or dental college claiming the authority to confer, or actually conferring, the degree of doctor of medicine, or doctor of dental surgery, not incorporated by a special Act of Congress, to conduct its business in the District of Columbia, unless such college shall be registered by the Commissioners of the District of Columbia and granted by them a written permit to commence or continue business in said District in compliance with the requirements of this Act.

SEC. 2. That it shall be the duty of the proper officers of any such college, before commencing or continuing business, to apply to the said Commissioners for registration and a permit to commence or continue business; and said Commissioners are hereby authorized and required to make such regulations concerning the form of such application, the evidence to be adduced in support thereof, and the method of taking such evidence as they may deem best, and shall have power, and it shall be their duty, to give public notice of all hearings upon such applications; and no registration and permit shall be granted until after the Commissioners shall have, by the inquiry and hearing hereinbefore provided for and such other inquiry as they may see fit to make, satisfied themselves that all such medical or dental colleges are fully equipped, both by the character and fitness of the faculty and the sufficiency of their appliances, to give suitable and sufficient instruction in the theory and practice of medicine or dental surgery.

SEC. 3. That it shall be the duty of the proper officers of every medical or dental college not incorporated by a special Act of Congress which is now doing business in said District to apply for such certificate and registration within thirty days of the passage of this Act; and no such college hereafter sought to be opened in said District shall commence business without first obtaining such registration and permit.

SEC. 4. That such of the officers and of the faculty of any such medical or dental college now in existence, and of every such college hereafter sought to be opened in said District, which shall continue or commence to offer instruction in such capacity without first obtaining registration and permit, as hereinbefore provided, shall be deemed guilty of a misdemeanor, and upon conviction thereof in the police court of said District, upon an information similar to that filed in the case of violations of the police regulations made by the said Commissioners, shall be fined not less than twenty-five nor more than two hundred and fifty dollars, and in default of payment thereof shall be imprisoned in the common jail of said District not less than thirty nor more than ninety days; said fines when collected to be paid into the Treasury of the United States to the credit of the District of Columbia.

SEC. 5. That in any case when such action shall be necessary in the opinion of the said Commissioners to give full effect to the intent of this Act they shall have power, and it shall be their duty, to file in the supreme court of the District of Columbia, in the name of the said District, a bill in equity against the proper parties praying an injunction against the opening or continuance of any such college not registered and granted a permit as aforesaid; and jurisdiction is hereby conferred upon such court to hear and determine such causes.

SEC. 6. That all acts and parts of acts and all charters heretofore obtained by any medical or dental college under the general incorporation laws in force in said District, so far as inconsistent with this Act, are hereby repealed.

Approved, May 4, 1896

[PUBLIC—No. 156.]

AN ACT relating to the testimony of physicians in the courts of the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in the courts of the District of Columbia no physician or

surgeon shall be permitted, without the consent of the person afflicted, or of his legal representative, to disclose any information, confidential in its nature, which he shall have acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity, whether such information shall have been obtained from the patient or from his family or from the person or persons in charge of him: *Provided*, That this Act shall not apply to evidence in criminal cases where the accused is charged with causing the death of, or inflicting injuries upon, a human being, and the disclosure shall be required in the interests of public justice.

Received by the President, May 13, 1896.

[NOTE BY THE DEPARTMENT OF STATE.—The foregoing act having been presented to the President of the United States for his approval, and not having been returned by him to the house of Congress in which it originated within the time prescribed by the Constitution of the United States, has become a law without his approval.]

[PUBLIC—No. 126.]

AN ACT to provide for the drainage of lots in the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That each original lot or subdivisional lot situated on any street in the District of Columbia where there is a public sewer shall be connected with said sewer in such manner that any and all of the drainage of such lot, whether water or liquid refuse of any kind, except human urine and fecal matter, shall flow into said sewer; and if such original lot or subdivisional lot is situated on any street in said District where there is a public sewer and water main, such original lot or subdivisional lot shall be connected with said sewer and also with said water main in such manner that any and all of the drainage of such lot, whether water or liquid refuse of any kind shall flow into said sewer: *Provided*, That the connections required to be made by this Act shall be made under the following conditions: When there is on any such original lot or subdivisional lot aforesaid any building used or intended to be used as a dwelling, or in which persons are employed or intended to be employed in any manufacture, trade, or business, or any stable, shed, pen, or place where cows, horses, mules, or other animals are kept, then, and in that instance, such original lot or subdivisional lot shall be connected with a public sewer and water main or with a public sewer, as may be required with this Act; and whenever there is no such building, stable, shed, pen, or place, as aforesaid, on such original lot or subdivisional lot, then such lot shall be required to be connected with a public sewer only when it has been certified by the health officer of said District that such connection is necessary to public health.

SEC. 2. That it shall be the duty of the Commissioners of said District to notify the owner or owners of every lot required by this Act to be connected with a public sewer or water main, as the case may be, to so connect such lot, the work to be done in accordance with the regulations governing plumbing and house drainage in said District.

SEC. 3. That if the owner or owners of any such lot neglect or refuse to make such connections as are required by this Act within thirty days after the receipt of such notice, such owner or owners shall be deemed guilty of a misdemeanor, and shall, on conviction in the police court of said District, be punished by a fine of not less than one dollar nor more than five dollars for each day he, she, or they fail or neglect to make such connections.

SEC. 4. That in case the owner or owners of any such lot be a nonresident or non-residents of the District of Columbia, or can not be found therein, then, and in that case, the said Commissioners shall give notice, by publication twice a week for two weeks in some daily newspaper published in the city of Washington, to such owner, directing the connection of such lot with such public sewer or with such public sewer or water main, as the case may be: *Provided, however*, That if the residence or place of abode of said nonresident lot owner be known or can be ascertained on reasonable inquiry, then, and in that case, a copy of the aforesaid notice shall be mailed to said nonresident, addressed to him in his proper name at his said place of residence or abode, with legal postage prepaid; and in case such owner or owners shall fail or neglect to comply with the notice aforesaid within thirty days it shall be the duty of said Commissioners to cause such connection to be made, the expense to be paid out of the emergency fund; such expense, with necessary expense of advertisement, shall be assessed as a tax against such lot, which tax shall be carried on the regular tax roll of the District of Columbia, and shall be collected in the manner provided for the collection of other taxes.

Approved, May 19, 1896.

[PUBLIC—No. 128.]

AN ACT to establish certain harbor regulations for the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be unlawful for any owner or occupant of any wharf or dock, any master or captain of any vessel, or any person or persons to cast, throw, drop, or deposit any ballast, dirt, oyster shells, or ashes in the water in any part of the Potomac River or its tributaries in the District of Columbia, or on the shores of said river below high-water mark, unless for the purpose of making a wharf, after permission has been obtained from the Commissioners of the District of Columbia for that purpose, which wharf shall be sufficiently inclosed and secured so as to prevent injury to navigation.

SEC. 2. That it shall be unlawful for any owner or occupant of any wharf or dock, any captain or master of any vessel, or any other person or persons to cast, throw, deposit, or drop in any dock or in the waters of the Potomac River or its tributaries in the District of Columbia any dead fish, fish offal, dead animals of any kind, condemned oysters in the shell, watermelons, cantaloupes, vegetables, fruits, shavings, hay, straw, ice, snow, filth, or trash of any kind whatsoever.

SEC. 3. That any person or persons violating any of the provisions of this Act shall be deemed guilty of a misdemeanor, and on conviction thereof in the police court of the District of Columbia shall be punished by a fine not exceeding one hundred dollars or by imprisonment not exceeding six months, or by both such punishments, in the discretion of the court.

SEC. 4. That nothing in this Act contained shall be construed to interfere with the work of improvement in or along the said river and harbor, under the supervision of the United States Government.

SEC. 5. That all acts or parts of acts inconsistent herewith are hereby repealed.

Approved, May 19, 1896.

[PUBLIC—No. 174.]

AN ACT to regulate the practice of medicine and surgery, to license physicians and surgeons, and to punish persons violating the provisions thereof in the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and is hereby, created a board of medical supervisors of the District of Columbia, which shall consist of the presidents of the three boards of medical examiners hereinafter provided for and two persons, not physicians, one of whom shall be learned in the law, to be appointed by the Commissioners of the District of Columbia, each for a period of three years, or until his successor is appointed: *Provided,* That not more than two members of the board of supervisors shall be adherents of any one system of medical practice: *And provided further,* That said Commissioners may remove, after due notice and hearing, any member of said board for neglect of duty or other just cause, and that in case of the death, resignation, or removal of any member the vacancy for the unexpired term of said member shall be filled in the same manner as other appointments are made.

SEC. 2. That the said board of medical supervisors shall elect a president, a vice-president, and a secretary. Said board shall make, subject to the approval of the Commissioners of the District of Columbia, such regulations as may be necessary to carry into effect the provisions of this Act. Said board shall hold such meetings as may be necessary for the transaction of business. Said board shall supervise all examinations provided for in this Act, and shall issue all licenses to practice medicine and surgery or midwifery in the District of Columbia. Said board shall keep an official record of its meetings, also an official register of all applicants for examination for licenses to practice medicine and surgery in the District of Columbia. Said register shall show the name, age, place and duration of residence of each candidate, the time he or she has spent in medical study, in or out of medical schools, and the names and locations of all medical schools which have granted said applicant any degree or certificate of attendance upon lectures in medicine. Said register shall also show whether said applicant was rejected or licensed under this Act. Said register shall be prima facie evidence of all matters contained therein. The secretary aforesaid may be elected by said board from others than its own members; said secretary shall also act as treasurer, and shall give such bond as may be required by the Commissioners of the District of Columbia; said secretary shall have the power to administer oaths upon such matters as pertain to the business of said board; said secretary shall mail to the address of each applicant a notice of the time and place of examination, not less than seven days before the examination, and at a longer period if requested by the applicant at the time of making application.

SEC. 3. That from and after the passage of this Act, all persons desiring to practice medicine and surgery in any of their branches in the District of Columbia shall apply to said board of medical supervisors for a license to do so. Applicants shall submit to examination upon the following-named branches, to wit: Anatomy, physiology, chemistry, pathology, materia medica and therapeutics, hygiene, histology, practice of medicine, surgery, obstetrics and gynecology, diseases of the eye and the ear, medical jurisprudence, and such other branches as said board shall deem advisable. Each applicant shall be certified by said board for examination as speedily as possible to the board of medical examiners whose members are adherents to the system of medicine which said applicant desires to practice; but said board shall not certify for examination any applicant until satisfactory proof is furnished that he or she is of good moral character and over twenty-one years of age, nor until he or she has presented a diploma conferring upon him or her the degree of doctor of medicine, issued by some medical college authorized by law to confer such degree: *Provided*, That said diploma, if issued prior to July first, eighteen hundred and ninety-eight, shall be accompanied by satisfactory evidence that said applicant has studied medicine and surgery for not less than three years prior to the issue thereof, and if issued subsequent to June thirtieth, eighteen hundred and ninety-eight, shall be accompanied by satisfactory evidence that the applicant has studied medicine and surgery for not less than four years prior to the issue of said diploma. All examinations shall be both theoretical and practical and of sufficient severity to test a candidate's fitness to practice medicine and surgery.

SEC. 4. That said application for a license to practice medicine and surgery in the District of Columbia shall be made to the secretary of said board of medical supervisors upon a form prescribed by said board, and shall be accompanied by a fee of ten dollars. Each application shall be in the hands of said secretary not less than two weeks before the day set for examination, and any application may be rejected for refusal to furnish any of the information called for, or for other irregularity. All applications shall be kept on file by said secretary.

SEC. 5. That immediately after the passage of this Act the Commissioners of the District of Columbia shall appoint three boards of medical examiners, one to be known as the board of medical examiners of the District of Columbia, and to be composed of five physicians in good standing, adherents to the regular system of medical practice; one to be known as the board of homeopathic medical examiners of the District of Columbia, and to be composed of five physicians in good standing, adherents to the homeopathic system of medical practice, to be selected from a list of not less than ten names, submitted by a majority vote at some regular meeting of the Washington Homeopathic Medical Society, and one to be known as the board of eclectic medical examiners of the District of Columbia, to be composed of five physicians in good standing, adherents to the eclectic system of medical practice, to be selected from a list of not less than ten names, submitted by a majority vote at some regular meeting of the Eclectic Medical Society of the District of Columbia. Of the members of each board first appointed, one shall be appointed to serve one year, two to serve two years, and two to serve three years, and thereafter each member of each board shall be appointed to serve three years, or until his successor is appointed: *Provided*, That no member of either of said boards shall have been engaged in the practice of medicine and surgery in the District of Columbia for less than five years at the time of his appointment: *And provided further*, That in event of the failure of the Washington Homeopathic Medical Society or of the Eclectic Medical Society of the District of Columbia, after fifteen days' notice by the Commissioners of the District of Columbia, to submit the list of names aforesaid, said Commissioners may appoint the members of the board of homeopathic medical examiners or of the board of eclectic medical examiners without restriction as to nomination by the society in default: *And provided further*, That said Commissioners may at any time remove any member of either of the boards named in this Act for neglect of duty or other just cause, and that in case of the death, resignation, or removal of any member the vacancy for the unexpired term of said member shall be filled in the same manner as other appointments are made.

SEC. 6. That each member of said boards of medical examiners of the District of Columbia shall, before entering upon the discharge of his duties, take an oath to administer fairly and impartially the provisions of this Act. Each board shall elect from its own members a president and a secretary. Each board shall hold a meeting for examination in the city of Washington on the second Thursday in January, April, July, and October of each year, and continuing so long as may be necessary to examine all applicants, and other meetings shall be held at such times as the board of medical supervisors shall direct. Each of said boards shall examine, at the meeting immediately following the receipt of the proper certificates from the board of medical supervisors, all applicants for licenses to practice medicine and surgery in the District of Columbia so certified.

SEC. 7. That the several boards of medical examiners shall, not less than one week

prior to each examination, submit to the board of medical supervisors of the District of Columbia questions for thorough examinations in anatomy, physiology, chemistry, pathology, materia medica and therapeutics, hygiene, histology, practice of medicine, surgery, obstetrics and gynecology, diseases of the eye and the ear, medical jurisprudence, and such other branches as said board of medical supervisors may direct. From the lists of questions so submitted said board of medical supervisors shall select the questions for each examination, and such questions shall be the same for all candidates, except that in the departments of therapeutics, practice of medicine, and materia medica the questions shall be in harmony with the system of medicine selected by the candidate. Said examinations shall be conducted orally and in writing, in accordance with the rules and regulations prescribed by the board of medical supervisors, and shall embrace the subjects as stated in section three of this Act. An official report of the result of each examination, signed by the president and the secretary and each acting member of the board of medical examiners conducting such examination, stating the average attained by each candidate in each branch, the general average, and the result of the examination, whether successful or unsuccessful, shall be transmitted to the board of medical supervisors within fifteen days from the date of such examination. Said report shall embrace all the examination papers, questions, and answers thereto. All such examination papers shall be kept for reference and inspection for a period of not less than five years.

SEC. 8. That if in the opinion of a majority of the board of medical supervisors, after a careful examination of the report of the board of medical examiners by which any applicant was examined, said applicant has fairly and successfully passed such examination as hereinbefore provided for, the board of medical supervisors of the District of Columbia shall, as soon thereafter as possible, issue to him a license signed by the president and the secretary of said board and attested by the seal of the District of Columbia, which license shall entitle said applicant, after it is registered as hereinafter provided, to practice medicine and surgery in the District of Columbia: *Provided*, That a license shall be issued upon application, free of cost and without examination, to each physician who is registered at the health office of the District of Columbia at the time of the passage of this Act, and to physicians who may change their residence to the District of Columbia from any State or Territory where medical laws and medical examining boards exist, the presentation of a certificate or license from a medical examining board, if found upon due inquiry to be true and genuine, being sufficient evidence of right to registration and certification under the provisions of this Act: *Provided*, That the medical laws and examining boards of such States and Territories grant equal rights and recognition to the licenses of the board herein created. All licenses issued by said board shall be numbered consecutively, and a register shall be kept by the secretary showing the number of each license, the date of issue, and to whom issued.

SEC. 9. That the board of medical supervisors of the District of Columbia shall make, subject to the approval of the Commissioners of said District, such regulations as may be necessary to determine the qualifications of women desiring hereafter to commence the practice of midwifery in the District of Columbia, and shall issue licenses to such as are, after examination, found qualified; but no fee shall be charged for the examination of any applicant for such licenses, and no applicant who has been rejected shall be reexamined within one year from such rejection: *Provided*, That a license shall be issued upon application, free of cost and without examination, to each midwife registered at the health office of the District of Columbia at the time of the passage of this Act.

SEC. 10. That the board of medical supervisors of the District of Columbia may, by a vote of four members, refuse to grant or may revoke a license, and may cause the name of any person to be removed from the record of the supreme court of the District of Columbia and from the register of the health office for any of the following causes, to wit: The employment of fraud or deception in passing the examinations provided for in this Act, chronic inebriety, the practice of criminal abortion, conviction of crime involving moral turpitude, or of unprofessional or dishonorable conduct. In complaints under this section the accused shall be furnished with a copy of the complaint and given a hearing before said board in person or by attorney, and witnesses may be heard for and on behalf of the accused, and for and on behalf of the said board. Appeal from the decision of said board may be taken to the court of appeals of the District of Columbia, and the decision of said court shall be final. Said board may at any time within two years from the refusal or revocation of a license, or the cancellation of registration under this section, by a vote of four members, issue, without examination, a new license to the person so affected, restoring to him or her all the rights and privileges of which he or she had been deprived by said board.

SEC. 11. That any person receiving a license as hereinbefore provided shall have it recorded in the office of the clerk of the supreme court of the District of Columbia

within three months from the date of said license, and the place and date of record shall be certified thereon by said clerk; and the holder of the license shall pay to the clerk of said court a fee of fifty cents for making the record. The holder of said license shall, after the same has been recorded, exhibit the same at the health office, and shall register, in a book provided for that purpose, his or her name and address. Whenever a license is revoked by said board of medical supervisors the secretary thereof shall report that fact in writing to the clerk of said court and to the health officer of the District of Columbia, who shall thereupon cancel such registration.

SEC. 12. That this Act shall not apply to commissioned surgeons of the United States Army, Navy, or Marine-Hospital Service, nor to regularly licensed physicians and surgeons in actual consultation from other States or Territories, nor to regularly licensed physicians and surgeons actually called from other States or Territories to attend specified cases in the District of Columbia, nor to the treatment of any case of actual emergency, nor to the practice of massage or the so called Swedish movement cure, nor to the use of ordinary domestic remedies without fee, gift, or consideration of any kind.

SEC. 13. That from and after the passage of this Act any person practicing medicine and surgery or midwifery in the District of Columbia, or who shall publicly profess to do so, without first having obtained from the board of medical supervisors of the District of Columbia a license and registered the same as herein provided, or in violation of any of the provisions of this Act or any of the rules and regulations made by authority conferred herein, or after his license or registration, has been canceled by order of said board of medical supervisors of the District of Columbia, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be punished for each offense by a fine of not less than fifty nor more than five hundred dollars, or by imprisonment in the District jail for a period of not less than ten nor more than ninety days, or by both such fine and imprisonment. It shall be the duty of the United States district attorney for the District of Columbia to prosecute all violations of the provisions of this Act.

SEC. 14. That the secretary of the board of medical supervisors shall be paid for taking testimony the same fee that is allowed to an examiner in chancery for the same service. The expense of said board and of the examinations shall be paid from the license fees herein provided for; and if any surplus remain on the thirtieth day of June of each year the members of the board of medical supervisors appointed as such shall be paid such reasonable compensation as the Commissioners of the District of Columbia may determine, and any balance then remaining shall be divided among the three boards of medical examiners in proportion to the number of candidates examined, each member of each board of medical examiners to receive such part of the entire amount paid as that board itself shall determine.

SEC. 15. That nothing in this Act shall be construed to conflict with an Act for the regulation of the practice of dentistry in the District of Columbia, approved June sixth, eighteen hundred and ninety-two, nor to interfere with graduates of standard dental colleges, registered under the provisions of said Act, in the exercise of their profession to the extent and within the limits of the curriculum of such standard dental colleges.

SEC. 16. That all acts or parts of acts, general or special, not in accordance with the provisions of this Act, be, and are hereby, repealed.

Approved, June 3, 1896.

REGULATION FOR THE SUPPRESSION AND PREVENTION OF CONTAGIOUS, INFECTIOUS, AND COMMUNICABLE DISEASES AFFECTING DOMESTIC ANIMALS IN THE DISTRICT OF COLUMBIA.

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, August 21, 1888.

Whereas the eighth section of the act of Congress approved May 29, 1884, entitled "An act for the establishment of a Bureau of Animal Industry, to prevent the exportation of diseased cattle, and to provide the means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals," authorizes and requires the Commissioners to take measures for the prompt suppression of all contagious, infectious, and communicable diseases affecting domestic animals in the District of Columbia, to prescribe regulations for disinfection, and such other regulations as they may deem necessary to prevent infection and contagion, as provided in said section, do ordain, declare, and publish the following:

Ordered, That all persons having the care or custody of any domestic animal in the District of Columbia affected or supposed to be affected with any infectious, contagious, or communicable disease shall isolate and forthwith report the same to the

Chief of the Bureau of Animal Industry of the Department of Agriculture, or to some officer in said Bureau in said District, designating the place where the same may be found, and shall place the same at his disposal and observe and follow such directions as such chief or officer shall prescribe in such case.

2. That it is hereby made the duty of all veterinary surgeons in said District and sanitary inspectors of the health department of the district, and of every member of the Metropolitan police force, to inquire and report upon all known or suspected cases referred to in section 1 of this order.

3. That if any person, or persons, having the care or custody of any domestic animal in said District, affected, or supposed to be affected, as aforesaid, shall secrete or conceal the same, or use any device to conceal the same, or mislead the persons or officers who are charged with any duty with reference to such domestic animals, and all persons aiding therein, shall each suffer the penalty hereinafter prescribed.

4. That the Chief of the Bureau of Animal Industry only may cause the death of any so diseased, or supposed to be diseased, animal in said District upon order, oral or written, from him for the death of such animal, and shall also prescribe the mode and place of such death, which shall be strictly pursued in the destruction of said animal, and the bodies of such animals so killed shall be removed by the health officer of the District upon notice from said chief.

5. That every person who shall violate any of the provisions of this regulation shall be fined in any sum not less than ten nor more than twenty-five dollars for each offense, to be enforced in the police court of the District of Columbia in the name of the District, on information, etc.

The Commissioners having learned that a dangerous communicable disease prevails among domestic animals in the vicinity of the District which by contagion or transportation may affect the general health and safety, the Commissioners, in pursuance of the provisions of section 8 of the act approved May 29, 1884, order the following measures for the prompt suppression of the same:

1. Upon the recommendation of the Commissioner of Agriculture, the Chief of the Bureau of Animal Industry in the United States Department of Agriculture is hereby authorized and empowered to act as veterinarian for the District of Columbia for the purposes named in the act above quoted.

2. So much of the rules and regulations prepared by the Commissioner of Agriculture in accordance with the requirements of the act aforesaid, and published under date of April 15, 1887, as are applicable to the District of Columbia are hereby approved and adopted by the Commissioners as regulations for the District: *Provided*, That wherever said regulations require report and action by the Commissioner of Agriculture, the Chief of the Bureau of Animal Industry, acting as veterinarian for the District, shall submit the requisite reports and recommendations for the consideration of and action by the Commissioners of the District of Columbia.

3. The legally appointed agents and inspectors of the Bureau of Animal Industry are hereby empowered, under the direction of the Chief of the Bureau, to discharge corresponding duties for the District of Columbia, and all citizens of the District are hereby directed and required to recognize and respect the said Chief of the Bureau of Animal Industry and his duly appointed agents as lawful officers of the District.

4. The said Chief of the Bureau and his agents are authorized to inspect any premises in the District of Columbia where it is believed there exists any contagious, infectious, or communicable disease among any domestic animals, and if found needful to order the temporary quarantine of said animals, to cause premises to be disinfected and if necessary to condemn the animals to be killed in order to prevent the spread of the disease.

5. The proceedings for the appraisal of the value of animals condemned to be killed shall be under the provisions of section 8 of the regulations.

6. The Chief of the Bureau aforesaid, acting as veterinarian for the District, shall make to the Commissioners monthly reports of all matters relating to the subject of this order within the District of Columbia, and in addition thereto special reports and recommendations as often as shall be needful for the information of the Commissioners to enable them to carry into effect the provisions of the law.

REGULATIONS FOR THE GOVERNMENT OF DAIRIES AND DAIRY FARMS
IN THE DISTRICT OF COLUMBIA.OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, D. C., June 26, 1895.

Ordered, That the following regulations made by the health officer of the District of Columbia, pursuant to the requirements of section 11 of "An act to regulate the sale of milk in the District of Columbia, and for other purposes," are hereby approved.

JOHN W. ROSS,
GEORGE TRUESDELL,
CHARLES F. POWELL,
Commissioners of the District of Columbia.

SECTION 1. No building shall be used for stabling cows for dairy purposes which is not well lighted, ventilated, drained, and constructed.

SEC. 2. No building shall be used for stabling cows for dairy purposes which is not provided with a suitable floor, laid with proper grades and channels to immediately carry off all drainage, and if a public sewer abuts the premises upon which such building is situated they shall be connected therewith whenever, in the opinion of the health officer, such sewer connection is necessary.

SEC. 3. No building shall be used for stabling cows for dairy purposes which is not provided with good and sufficient feeding troughs or boxes, and with a covered, water-tight receptacle, outside of the building, for the reception of dung and other refuse.

SEC. 4. No water-closet, privy, cesspool, urinal, inhabited room, or workshop shall be located within any building or shed used for stabling cows for dairy purposes, or for the storage of milk or cream, nor shall any fowl, hog, horse, sheep, or goat be kept in any room used for such purposes.

SEC. 5. The space in buildings or sheds used for stabling cows shall not be less than 500 cubic feet for each cow, and the stalls therefor shall not be less than 4 feet in width.

SEC. 6. It shall be the duty of each person using any premises for keeping cows for dairy purposes to keep such premises thoroughly clean and in good repair and well painted or whitewashed at all times.

SEC. 7. It shall be the duty of each person using any premises for keeping cows for dairy purposes to cause the building in which cows are kept to be thoroughly cleaned, and remove all dung from the premises so as to prevent its accumulation in great quantities.

SEC. 8. It shall be the duty of any person having charge or control of any premises upon which cows are kept to notify the health officer, in writing, of the existence of any contagious or infectious disease among such cows, within twenty-four hours of the discovery thereof, and to thoroughly isolate any cow or cows affected or which may reasonably be believed to be infected, and to exercise such other precautions as may be directed, in writing, by the health officer.

SEC. 9. Any person using any premises for keeping cows for dairy purposes shall provide and use a sufficient number of receptacles, made of nonabsorbent materials, for the reception, storage, and delivery of milk, and shall cause them at all times to be cleansed and purified, and shall cause all milk to be removed without delay from the rooms in which the cows are kept.

SEC. 10. Every person keeping cows for the production of milk for sale shall cause every such cow to be cleaned every day and to be properly fed and watered.

SEC. 11. Every person using any premises for keeping cows shall cause the yard used in connection therewith to be provided with a proper receptacle for drinking water for such cows; none but fresh, clean water to be used in such receptacle.

SEC. 12. Any inclosure in which cows are kept shall be graded and drained so as to keep the surface reasonably dry and to prevent the accumulation of water therein, except as may be permitted for the purpose of supplying drinking water; no garbage, urine, fecal matter, or similar substances shall be placed or allowed to remain in such inclosure, and no open drain shall be allowed to run through it.

SEC. 13. These regulations shall apply to all premises upon which cow's milk is produced for sale.

SEC. 14. That any person violating any of these regulations shall, on conviction in the police court of said District, be punished by a fine of not less than five nor more than ten dollars for each and every offense, to be collected as other fines and penalties are collected.

WM. C. WOODWARD, M. D.,
Health Officer.

REGULATIONS GOVERNING THE DISINTERMENT OF BODIES FROM GRACELAND CEMETERY AND THEIR REINTERMENT IN OTHER CEMETERIES.

[August 29, 1894; amended June 4, 1895.]

OFFICE OF THE COMMISSIONERS OF THE DISTRICT OF COLUMBIA,
Washington, August 29, 1894.

Ordered, That the following regulations governing the disinterment of bodies from the Graceland Cemetery and their reinterment in other cemeteries, under the act of Congress entitled "An act prohibiting the interment of bodies in Graceland Cemetery, in the District of Columbia," approved August 3, 1894, are hereby made:

SECTION 1. No body or part of any body shall be exhumed or reinterred until a permit therefor shall have been issued by the health officer, or otherwise than in accordance with such permit. Application for such permit shall be made in writing, in duplicate, to the health officer, and shall be signed by the secretary of the Graceland Cemetery Association; said application shall state the name and age of the deceased, the place, date, and cause of death, the date of burial in Graceland Cemetery, the location of the grave, and the number of bodies, if more than one, interred therein, and shall state the exact location of the grave in which the body is to be reinterred; said application shall, when approved by the health officer, be considered as a permit to exhume and reinter the bodies of those persons named therein, subject to the restrictions and conditions of these regulations, and not otherwise. When such exhumations and reinterments shall have been made, the secretary of said Graceland Cemetery Association shall indorse on said application, opposite each name, the date on which reinterment was made, and shall certify that all exhumations and reinterments for which permission was asked in said application have been completed in accordance with the permit and in conformity with these regulations.

SEC. 2. No body or part of any body of any person under twelve years of age shall be disinterred within a less period than one year from the date of burial, nor in case of any person more than twelve years of age within a period of less than two years from the date of burial: *Provided*, That the foregoing restrictions of this section shall not apply to any body buried in a solid metallic casket, if such casket is not opened at any time during exhumation and reinterment: *And provided further*, That when two or more bodies have been interred in a single grave, such grave shall not be opened until it is permissible under this section to remove the older of the bodies or the one last interred.

Each body or part of body, together with any article or articles, or the remains of any article or articles, of any description whatsoever which may have been buried with such body, including the casket, coffin, and box in which such body was buried, shall be transferred directly from the grave to a tight box, which shall be immediately closed and which shall not be opened until the contents thereof are to be deposited in the grave in which such body is to be reinterred. Reinterment shall be completed in every case within twenty-four hours from the time when the remains were exhumed.

Bodies of such persons as have died of diphtheria shall be thoroughly wetted, before being removed from the grave, with a solution of chloride of lime of the strength of one pound to each two gallons of water. No body or part of any body, or anything pertaining to any body or to its interment, shall be disposed of otherwise than in accordance with these regulations. Each grave from which the remains of any body or bodies have been removed shall be allowed to remain open for twenty-four hours before it is filled.

SEC. 3. No body or part of any body which has been interred in a single grave in Graceland Cemetery shall be interred in any less space or in the same grave with any other body or part of any other body in any other cemetery, but when two or more bodies have been interred in the same grave in said Graceland Cemetery, these same bodies, or the remains thereof, may be interred in a similar manner in the grave in which they are reinterred.

SEC. 4. No person except such as are actually engaged in the removal of the bodies, relatives of the deceased, or such as are authorized by the health officer shall be permitted to witness the exhumation or reinterment of any body or part of any body, or to handle or examine the same.

SEC. 5. Each monument, tombstone, and marker marking any grave or graves in Graceland Cemetery shall be transferred to mark the grave or graves in which such body or bodies are to be reinterred, and shall be there placed in position as soon as this can be done without danger of settling.

SEC. 6. Any permit, or any part of any permit, may be revoked by the health officer if in his judgment the work is being done otherwise than in accordance with these regulations or becomes in any way dangerous to public health.

These regulations may be altered or amended at any time by the District Commissioners.

Official copy furnished health officer.

By order:

W. TINDALL, *Secretary*.

OPINION OF HON. A. A. BIRNEY, UNITED STATES DISTRICT ATTORNEY,
IN REFERENCE TO AN ACT TO PREVENT THE SPREAD OF SCARLET
FEVER AND DIPHTHERIA IN THE DISTRICT OF COLUMBIA.

OFFICE OF UNITED STATES ATTORNEY
FOR THE DISTRICT OF COLUMBIA,
Washington, D. C., February 19, 1896.

SIR: I have before me your letter of February 15, in which you say that under your direction an application had that day been made for a warrant of arrest, which warrant my assistant at the police court had declined to allow to issue, and ask if his decision meets with my approval.

Upon investigation I learn that the case in question was this: A physician filed a death certificate stating the cause of death of his patient to have been "membranous croup;" he had not previously reported the existence of this disorder in the patient. Application is made for his arrest for violation of the second section of the act of Congress of December 20, 1890, entitled "An act to prevent the spread of scarlet fever and diphtheria in the District of Columbia." This section provides, in effect, that it shall be the duty of every practicing physician to make report to the health officer "immediately after such practicing physician becomes aware of the existence of any case of scarlet fever or diphtheria under his charge," and a penalty is provided for his neglect to make such report. It will be observed that the only cases provided for are cases of scarlet fever and diphtheria. Section 3 of the act requires physicians in attendance upon cases of scarlet fever or diphtheria to exercise such reasonable precautions to prevent the spread of such diseases as may be prescribed by the health officer of the District of Columbia in regulations. This section and section 6 of the same act impliedly give authority to the health officer to prescribe regulations which are to be respected by physicians generally, but no part of the act provides any penalty whatever to be imposed upon any practitioner who shall violate these regulations or refuse to be bound by them. The only penalties provided for in the act are (1) failure to report cases of scarlet fever or diphtheria, (2) the giving of false certificate, and (3) the visiting of schools, seminaries, or colleges by convalescents from diphtheria or scarlet fever who have not provided themselves with certificates of recovery.

Section 3 has attempted to provide penalties (not affecting physicians, however), but is so confused that, in my judgment, it is incapable of being enforced in a court of justice.

Under the authority of this act, as above stated, the health officer has issued certain regulations, and has assumed by the second to declare as a matter of law that the term "diphtheria" as used in the act "shall be held to include membranous croup, unless," etc. I find no authority whatever for this action of the health officer, and I am therefore of the opinion that such declaration, going as it does far beyond the terms of the statute, is void. As I have above indicated, however, in my opinion, no liability whatever attaches in any case of violation only of the regulations.

If it can be made to appear by evidence that the patient in the case complained of died of diphtheria, and that the physician in charge knew it to be a case of diphtheria, and with such knowledge failed to report it to the health officer, my assistant has instructions to cause a warrant to issue forthwith for his arrest. But in the absence of such evidence (and I am informed that no such evidence was brought to the attention of my assistant), it is my opinion that no warrant should issue, since the proceedings could not possibly be sustained.

With great respect, I am, dear sir, yours, very truly,

A. A. BIRNEY,

United States Attorney, District of Columbia.

Dr. WILLIAM C. WOODWARD,
Health Officer, Washington, D. C.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 1203

List of physicians licensed to practice in the District of Columbia, January 2, 1897.

[The issue of licenses to the following physicians has been authorized by the Board of Medical Supervisors under date of January 2, 1897. Such licenses, when properly recorded, will authorize such physicians to practice medicine and surgery in the District of Columbia. Commissioned surgeons in the United States Army, Navy, and Marine Hospital Service are not included in this list, being permitted to practice in the District of Columbia without a license.]

Name.	Address.	Name.	Address.
Acker, George N.....	913 Sixteenth st. NW.	Belt, Edward O.....	The Albany, Seven- teenth and H sts. NW.
Adams, Arthur C.....	619 Massachusetts ave. NE.	Bennett, Harrison M.....	Takoma Park, D. C.
Adams, Benjamin B.....	927 New York ave. NW.	Bennett, Maitland C.....	1728 Eighth st. NW.
Adams, Clarence B. S.....	422 Eighth st. SE.	Bennit, William W.....	1423 S st. NW.
Adams, J. Lee.....	Takoma Park, D. C.	Benson, Elbert G.....	1392 Maryland ave. NE.
Adams, James O.....	937 N st. NW.	Beresford, Galsworthy G.....	936 F st. NW.
Adams, Samuel S.....	1 Dupont circle.	Bermann, Isidor.....	1010 I st. NW.
Alderman, Zenas W.....	232 New Jersey ave.	Bevard, William A.....	1313 Fourteenth st. NW.
Alleger, Walter W.....	966 S st. NW.	Bevier, William D.....	1420 Eleventh st. NW.
Allen, Charles.....	1320 G st. NW.	Billard, James F.....	Laurel, Md.
Allen, Charles L.....	1811 H st. NW.	Bird, John C.....	1336 G st. NW.
Allen, Elijah H.....	210 L st. NW.	Birdsall, Charles W.....	1249 Thirty-first st. NW.
Allen, H. Jerome.....	421 H st. NE.	Blackburn, Isaac W.....	Government Hospital for the Insane.
Allen, Jacob S.....	436 G st. NE.	Blackiston, Thomas C.....	1540 Seventh st. NW.
Allen, Maxwell H.....	Parsons, Kans.	Blair, Joseph D.....	2623 Vermont ave.
Ames, Delano.....	1600 Thirteenth st. NW.	Blake, Louisa M.....	237 Eighth st. NE.
Anderson, Frank.....	1628 Nineteenth st. NW.	Bland, Mary C.....	Washington, D. C.
Anderson, Joseph W.....	1911 Eleventh st. NW.	Bliss, Charles L.....	1106 New York ave.
Appleby, James F. R.....	1430 Thirty-third st. NW.	Bliss, James E.....	604 H st. NE.
Armstrong, Wm. J.....	1306 Lydecker ave.	Boarman, Charles V.....	1104 Maryland ave. SW.
Arnold, John S.....	24 Second st. NE.	Bogan, Fred. Macon.....	421 G st. NW.
Arwine, James T.....	716 Four-and-a-half st. SW.	Bogan, Samuel W.....	421 G st. NW.
Ashford, Bailey K.....	Children's Hospital, Thirteenth and W sts.	Bond, Samuel S.....	818 New Jersey ave. NW.
Atkinson, Wade H.....	707 Twelfth st. NW.	Bonebrake, James H.....	917 Third st. NW.
Atwood, Oliver M.....	1526 L st. NW.	Boss, Rufus D.....	146 East Capitol st.
Ayres, William W.....	1730 Q st. NW.	Boswell, Archie W.....	1239 H st. NE.
Babbitt, Zeno B.....	810 Eleventh st. NW.	Bovee, J. Wesley.....	1404 H st. NW.
Balcock, Barney.....	North Syracuse, N. Y.	Bowen, Charles H.....	607 Massachusetts ave. NW.
Bailey, Grafton D. P.....	223 Four-and-a-half st. NW.	Bowen, Harry M.....	1228 Sixteenth st. NW.
Bailey, Henry L.....	1924 Eleventh st. NW.	Bowen, William S.....	1228 Sixteenth st. NW.
Baker, Frank.....	1804 Columbia road.	Boyd, George W.....	121 Second st. NE.
Baker, Leigh Y.....	916 Fourteenth st. NW.	Boyle, Frank C.....	1969 Ninth st. NW.
Baker, May D.....	1434 S st. NW.	Brackett, John E.....	1310 Rhode Island ave.
Baker, Robert W.....	816 Seventeenth st. NW.	Bradem, Francis W.....	719 East Capitol st.
Baker, Willie W.....	916 S st. NW.	Bradfield, Jefferson D.....	1533 North Capitol st.
Baldus, William T.....	2144 Pennsylvania ave. NW.	Branson, Joseph H.....	1231 New Jersey ave. NW.
Baldwin, Aaron.....	1205 Eleventh st. NW.	Bromwell, Josiah R.....	1147 Connecticut ave. NW.
Baldwin, Mosby.....	1002 Rhode Island ave.	Bronson, Charles E.....	2434 Pennsylvania ave. NW.
Bail, Charles A.....	233 G st. NW.	Brooks, Floyd V.....	465 Florida ave. NW.
Balloch, Edward A.....	1218 Twelfth st. NW.	Brooks, J. Henry.....	Brookland, D. C.
Banes, Hiram J.....	126 E st. NW.	Brosius, Mary Alice.....	1101 K st. NW.
Barber, James M.....	918 E st. NW.	Brown, Charles W.....	902 Fourteenth st. NW.
Barbour, Frank A.....	1327 Twelfth st. NE.	Brown, Robert W.....	1224 R st. NW.
Barker, Howard H.....	1116 H st. NW.	Bruckheimer, Moses.....	617 Sixth st. NW.
Barnes, Noble P.....	611 Maryland ave. NE.	Brumbaugh, Gains M.....	904 Massachusetts ave. NW.
Barrie, George.....	NE. corner Four- teenth and Corcoran sts.	Brunnmett, Randolph B.....	103 Fifth st. NE.
Barrington, Richard L.....	3514 N st. NW.	Bruner, James F.....	647 East Capitol st.
Barry, C. Neil.....	807 I st. NW.	Bryan, Joseph H.....	818 Seventeenth st.
Barry, Edmund.....	436 N. J. ave. SE.	Buchanan, Charles M.....	Tulalip Indian Agen- cy, Wash.
Barry, John P.....	1246 H st. NE.	Bulkley, John W.....	1723 N st. NW.
Barstow, Edward C.....	712 East Capitol st.	Bunnenmeyer, Bernard.....	14 U s. NW.
Barstow, Kate D.....	712 East Capitol st.	Burke, Francis E.....	The Ebbitt
Barton, Wilfred M.....	336 B st. NE.	Burke, Thomas W.....	490 K s. NW.
Bastian, Joseph W.....	622 Pennsylvania ave. NW.	Burnett, Swan M.....	800 L st. NW.
Battle, Lewis J.....	3063 Indiana ave.	Burritt, Alice.....	916 Farragut square.
Bayne, John W.....	116 Second st. SE.	Burton, George C.....	1129 Fourteenth st. NW.
Beall, Benjamin M.....	800 Fifth st. NE.	Burwell, John P.....	810 H st. NE.
Beattie, Wray.....	910 East Capitol st.		904 Fourteenth st. NW.
Beatty, Hugh W.....	631 Second st. NW.		
Beatty, Louis Kelley.....	610 East Capitol st.		
Beatty, Walter K.....	610 East Capitol st.		
Behrend, Adajah.....	1214 K st. NW.		

1204 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Busey, Samuel C.	901 Sixteenth st. N.W.	Corbin, William E.	1005 Twenty-third st. N.W.
Butler, William K.	1207 M st. N.W.	Corey, Waterman F.	1305 R st. N.W.
Byrne, Patrick J.	25 N st. N.W.	Cornish, Mabel	235 First st. SE.
Byrne, Walter C.	35 Iowa circle.	Coumbe, Arthur G.	1312 Ninth st. N.W.
Byrns, William F.	35 B st. SE.	Coumbe, Oscar H.	1312 Ninth st. N.W.
Cabaniss, George W.	1006 K st. N.W.	Cowden, J. Morrow	715 Thirteenth st. N.W.
Caldwell, Charles T.	949 S st. N.W.	Cox, S. Clifford	Hyattsville, Md.
Caldwell, William A.	1329 G st. N.W.	Craig, Henry K.	Children's Hospital, Thirteenth and W sts. N.W.
Callan, Cornelius V. N.	1422 F st. N.W.	Crease, Henry G.	Washington, D. C.
Calvert, Finley H.	1830 G st. N.W.	Crittenden, Thomas B.	925 New York ave. N.W.
Cameron, Malcolm	1027 Twenty-second st. N.W.	Crook, Harrison	918 Fourteenth st. N.W.
Camp, Herbert M.	Takoma Park, D. C.	Crosson, Henry J.	819 Nineteenth st. N.W.
Campbell, Charles B.	404 M st. N.W.	Crush, Alice S.	712 Eighth st. N.W.
Campbell, Thomas B.	1000 Ninth st. N.W.	Cursor, Collin B.	1331 Twenty-eighth st. N.W.
Cannon, Walter D.	1334 Eleventh st. N.W.	Cummiskey, Edward F.	441 Seventh st. SW.
Capehart, Baldy A.	1814 H st. N.W.	Curriden, George A.	34 B st. NE.
Cardozo, Francis J.	301 Second st. SW.	Currier, George R.	3320 Thirteenth st. N.W.
Carlisle, George M.	229 Indiana ave.	Custis, George W. N.	112 East Capitol st.
Carman, Louis D.	1351 Q st. N.W.	Custis, J. B. Gregg	110 East Capitol st.
Carmichael, Randolph B.	723 Eighteenth st. N.W.	Custis, Marvin A.	634 East Capitol st.
Carpenter, James A. S.	433 I st. N.W.	Cuthbert, Middleton F.	1462 Rhode Island ave.
Carpenter, John E.	623 North Carolina ave. SE.	Czarra, Sigmund A.	619 Pennsylvania ave. N.W.
Carr, William P.	1319 Thirteenth st. N.W.	Dale, John	129 Third st. NE.
Carragher, John V.	812 E st. SE.	Danforth, Roderick F.	919 Twelfth st. N.W.
Carrico, Albert J.	1503 Thirty-fifth st. N.W.	Daniel, Robert A.	715 Fifth st. N.W.
Carroll, James	Army Medical Museum.	Daniels, Uriah J.	2325 L st. N.W.
Carroll, James J.	1322 Thirteenth st. N.W.	Darby, John J.	451 Q st. N.W.
Carroll, Joseph	1531 West Lombard st., Baltimore, Md.	Darling, Benjamin F.	613 F st. N.W.
Carroll, Robert L.	948 L st. N.W.	Darling, Henry	Brightwood, D. C.
Carter, Durus D.	1312 Q st. N.W.	Darrah, Austin A.	9 Eleventh st. NE.
Carter, Marion B.	1129 Ninth st. N.W.	Davidson, Edward Y.	154 E st. NE.
Chadwick, De Witt C.	61 I st. N.W.	Davidson, Falconer	204 Pennsylvania ave. SE.
Chamberlin, Frank T.	226 New Jersey ave. SE.	Davis, Charles A.	1010 Fifteenth st.
Chapman, Nathaniel	1212 K st. N.W.	Davis, Llewellyn F.	1108 New York ave.
Chappell, John W.	Tennallytown, D. C.	Davison, Joseph C.	1321 G st. N.W.
Charles, Francis M.	1406 Sixth st. N.W.	Dawson, Charles F.	1118 Virginia ave. SW.
Chew, Thomas I.	226 East Capitol st.	Deale, Henry B.	1224 Fourteenth st. N.W.
Childs, Creed W.	513 Third st. SW.	De Carré, Alfred	Brightwood, D. C.
Choate, Rufus	1332 New York ave. N.W.	Deeble, Horace M.	602 M st. N.W.
Church, James R.	1407 New York ave.	Demarest, Cornelius L.	644 East Capitol st.
Church, John W.	401 Seventh st. N.W.	Dennison, Ira W.	1322 L st. N.W.
Clark, Claude L.	1313 North Twenty-second st., St. Louis, Mo.	Devereux, J. Ryan	1408 H st. N.W.
Clark, George C.	321 East Capitol st.	Dillenbach, William J.	1340 R st. N.W.
Clark, James J.	Brightwood, D. C.	Dixon, Henry M.	2149 Pennsylvania ave. N.W.
Clark, Taliaferro	1309 H st. N.W.	Dobson, Herbie A.	100 Eleventh st. NE.
Clayton, Thomas A.	5 Dupont circle.	Dobson, William H.	100 Eleventh st. NE.
Clemons, Phineas H.	629 Florida ave. NE.	Dolan, Patrick V.	1408 Eleventh st. N.W.
Coblentz, Horace B.	467 Florida ave. N.W.	Donohue, Florence	1134 Eighth st. N.W.
Coe, Anton	1110 F st. N.W.	Dooley, Francis X.	1627 Fourteenth st. N.W.
Cole, Arthur B.	5 Tennessee ave. NE.	Dorsey, John S.	1415 P st. N.W.
Coffron, Willard H.	1238 Sixteenth st. N.W.	Dorsey, Lloyd	913 Massachusetts ave. N.W.
Cole, George R. L.	424 Seventh st. SW.	Douglas, Alanson S.	311 G st. NE.
Cole, John T.	907 H st. NE.	Douglas, James F.	516 East Capitol st.
Coleman, Horace	1107 Massachusetts ave. N.W.	Douglas, Robert	936 F st. N.W.
Collins, Albert R.	468 E st. SW.	Drane, Frank C.	Takoma Park, D. C.
Collins, Charles R.	1125 Fourteenth st. N.W.	Drawbaugh, John A.	18 Sixth st. SE.
Collins, Edward J.	823 Eleventh st. NE.	Drenford, George	Catholic University.
Collins, John F.	1365 Third st. N.W.	Drury, George A.	605 Florida ave. N.W.
Compton, William P.	926 Seventeenth st. N.W.	Du Bose, George P.	2003 Q st. N.W.
Connell, George E.	3230 N st. N.W.	Duffey, Hugh C.	1251 Ninth st. N.W.
Conner, William H.	1623 Tenth st. N.W.	Dufour, Clarence R.	1016 I st. N.W.
Cook, George W.	3 Thomas Circle.	Dulaney, Joshua L.	926 I st. N.W.
Cooke, Robert R.	Washington, Fayette County, Ohio.	Dumas, Michel O.	1908 Eleventh st. N.W.
Coolidge, Augustus B.	1113 G st. N.W.	Dye, Hobart S.	1400 K st. N.W.
		Eaton, Parley H.	1318 T st. N.W.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 1205

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Eddy, Otis J.	1215 Rhode Island ave.	Gillette, Hubbard	Corner Thirteenth and V sts. NW.
Eggleston, James D.	2500 Fourteenth st. NW.	Gilliland, Orange C.	622 Eleventh st. NE.
Eggleston, George W.	NE, corner First and New York ave. NW.	Glazebrook, Larkin W.	1403 New York ave.
Elgin, William F.	Bethesda, Md.	Gleeson, James K. P.	1316 R st. NW.
Eliot, J. Llewellyn.	1106 P st. NW.	Gobrecht, William H.	965 M st. NW.
Eliot, Johnson.	1417 N st. NW.	Godding, William W.	Government Hospital for the Insane.
Elliott, Charles S.	325 East Capitol st.	Godfrey, Carlos E.	728 Fourth st. SE.
Elliott, Henry R.	1826 N st. NW.	Godfrey, George M.	Sibley Hospital.
Ellis, Hannah C.	1113 G st. NW.	Goines, William H.	506 P st. NW.
Ellis, Joseph C.	1113 G st. NW.	Goldsborough, Edmund K.	1331 K st. NW.
Ellyson, Robert M.	1535 Eighth st. NW.	Goodall, Henry S.	Charlemont, Mass.
Emmons, Charles Mc.	3033 Fifteenth st. NW.	Goodman, William R.	1219 Tenth st. NW.
English, Charles H.	1107 G st. NW.	Gracy, George W.	1211 F st. NW.
Erbach, Amelie.	122 Third st. SE.	Graham, Neil F.	909 New York ave.
Eslin, James T.	901 S st. NW.	Graham, Robert H.	305 H st. NW.
Evans, Albert W.	162 P st. NW.	Grandfield, Charles P.	1951 Harewood ave. NW.
Evans, Warwick.	1105 Ninth st. NW.	Gray, Clarence A.	622 O st. NW.
Ezdorf, Rudolph H. von.	Columbia Hospital.	Greaves, Blanche F.	1126 Twelfth st. NW.
Fadsley, George B.	921 F st. NW.	Greene, Lawrence M.	2018 Second st. NW.
Falconer, Bolivar L.	1348 Four-and-a-half st. SW.	Griffin, Thomas A.	320 C st. SE.
Fales, Warren D.	915 L st. NW.	Griffith, Michael J.	Orphans Court.
Feathers, Jonathan H.	210 Delaware ave. NE.	Griffith, Monte.	1841 Fourteenth st. NW.
Fenwick, George P.	504 Sixth st. SW.	Grinder, George W.	923 Ninth st. NW.
Ferguson, Charles E.	413 L st. NW.	Groce, Henry R.	547 Florida ave. NW.
Ferguson, Thomas M.	224 Sixth st. NW.	Groce, S. Marie.	547 Florida ave. NW.
Fierce, William W.	25 Third st. NE.	Groot, Simon I.	924 New York ave.
Finley, Clara B.	1339 T st. NW.	Guss, Harry T.	1406 Binney st. NW.
Finney, Adam B.	657 New York ave. NW.	Gwynn, Oscar J.	1118 New Hampshire ave.
Fishblat, Albert S.	800 Fourteenth st. NW.	Hagner, Charles E.	1744 M st. NW.
Fisher, George W.	112 Jackson st., Anacostia, D. C.	Hall, Arthur J.	811 Thirteenth st. NW.
Fisher, Richard C.	1321 Michigan ave., Chicago, Ill.	Hall, J. Mitchell.	1502 L st. NW.
Fitch, George W. H.	Daretown, N. J.	Hall, William H.	1513 Twelfth st. NW.
Ford, William C.	928 New York ave. NW.	Hamilton, James R.	1327 Q st. NW.
Foster, Romulus A.	2029 Q st. NW.	Hamilton, Richard T.	2356 Sixth st. NW.
Foster, Warren W.	1313 Fourteenth st. NW.	Hammatt, Charles M.	644 F st. SW.
Fowler, Ernest W.	404 M st. NW.	Hammatt, Charles M., jr.	644 F st. SW.
Fowler, William C.	1141 Fifth st. NW.	Hammond, Thos. V.	1713 H st. NW.
Fox, George L.	Sixth and D sts. NW.	Hammond, William A.	Thirteenth and Princeton sts.
Fox, William H.	1138 Connecticut ave.	Hance, Theodore F.	Pension Office.
Francis, John R.	2112 Pennsylvania ave.	Hannon, Samuel L.	200 D st. NW.
Frankland, W. Ashby.	916 Eighth st. NW.	Hansmann, Theodore.	1310 I st. NW.
Frantzoni, Charles W.	605 I st. NW.	Hardesty, Joseph R. L.	1733 Riggs place NW.
Freer, James A.	1523 I st. NW.	Harding, Gena R.	The Shoreham.
Freer, Harris H.	510 Seventh st. NE.	Harding, Harry T.	2650 Fourteenth st. NW.
French, Leigh H.	825 Vermont ave.	Harding, Ralph A.	2142 I st. NW.
French, William B.	506 East Capitol st.	Harmer, James B.	1314 F st. NW.
Friederich, Leon L.	329 East Capitol st.	Harrison, Charles S.	1916 Eleventh st. NW.
Frost, Ellis F.	513 Sixth st. NW.	Harrison, George B.	1223 Connecticut ave.
Frost, John W.	1731 Nineteenth st. NW.	Harrison, Herbert A.	Homeopathic Hospital, Second and Nts. Roche Harbor, San Juan Islands, Wash.
Fry, Henry D.	1133 Fourteenth st. NW.	Harrison, Isaac M.	1008 H st. NW.
Gaines, Richard L.	2243 Brightwood ave.	Harrison, James S.	200 Monroe st., Anacostia, D. C.
Gallagher, Matilda J.	112 Fourth st. SE.	Harrison, John S.	The Cairo.
Gallagher, Michael F.	900 K st. NW.	Harrison, Julia C.	610 B st. NE.
Gallagher, Patrick J.	321 Fifth st. SE.	Harvey, Heber McK.	2500 Fourteenth st.
Gardner, Franklin H.	1016 Fourteenth st. NW.	Hasbrouck, Edwin M.	1622 Vermont ave. NW.
Garrison, Fielding A.	1427 R st. NW.	Haskins, Henry W.	734 Seventeenth st. NW.
Garvin, Mary J.	Washington, D. C.	Hawkes, William H.	The Buckingham.
Gatchell, William F.	604 E st. NE.	Hawley, Hercules R.	1333 L st. NW.
Godles, William.	1719 G st. NW.	Hawxhurst, Howard H.	113 First st. NE. or 1416 Rhode Island ave.
Golding, Gustave P.	623 F st. NW.	Hayes, Henry L.	307 F st. NE.
Gotsch, Daniel C.	226 I st. NW.	Haynes, Henry M.	1347 Q st. NW.
Gibbs, Benjamin F.	2934 Fourteenth st. NW.	Hazen, David H.	407 Sixth st. SW.
Gibbs, Edwin A.	1608 Thirteenth st. NW.	Hazen, William P. C.	511 East Capitol st.
Gibbs, Thomas F.	935 Rhode Island ave.	Heger, Anthony.	1901 I st. NW.
Gilbert, Charles E.	1403 H st. NW.	Heger, Anton, jr.	1901 I st. NW.
Gill, William T.	505 O st. NW.		

1206 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Heiberger, Ida J.	722 Eighteenth st. NW.	Johnson, Joseph Taber	1728 K st.
Heinecke, George B.	804 Eleventh st. NW.	Johnson, Lincoln	1208 K st. NW.
Heiser, William H.	1108 H st. NE.	Johnson, Louis A.	709 C st. SW.
Heller, Joseph M.	Garfield Memorial Hospital.	Johnson, Sidney L.	819 New Jersey ave. NW.
Helton, Addison S.	252 Ninth st. NE.	Johnson, Wallace	926 Seventeenth st. NW.
Henderson, George	817 T st. NW.	Johnston, George W.	1437 L st. NW.
Hensley, James T.	405 Ninth st. NE.	Johnston, William W.	1403 K st. NW.
Heppburn, James H.	140 F st. NW.	Johnstone, Robert B.	804 Tenth st. NW.
Herbert, James W.	824 D st. SE.	Jolley, Bushrod B.	1909 Vermont ave.
Herbert, Joseph W.	205 H st. NW.	Jones, Daniel W.	513 Second st. NW.
Herdiska, Charles V.	1324 F st. NW.	Jones, Eugene	2816 P st. NW.
Heron, George H.	1016 Ninth st. NW.	Jordan, Charles M.	1421 F st. NW.
Heron, William H.	1016 Ninth st. NW.	Jordan, Llewellyn	2326 H st. NW.
Hickling, D. Percy	232 Third st. NW.	Jouy, Joseph	2218 Pennsylvania ave.
Higgins, Raymond P.	Homeopathic Hospital, Second and N sts.	Juliin, Magnus L.	1423 Fifth st. NW.
Hill, Richard S.	905 E st. NW.	Jung, Franz A. R.	825 Vermont ave.
Hislop, Margaret	1021 Vermont ave.	Jung, Sofie A. Nordhoff	825 Vermont ave.
Hodge, Edwin R.	1920 H st. NW.	Junghans, John H.	1246 New Jersey ave. NW.
Hodges, J. Walter	301 Second st. SE.	Kahrs, William H.	One hundred and seventy-third and Topping sts., New York City.
Hodgson, Charles S.	4 I st. NE.		
Hoffman, Walter J.	222 E st. NW.		
Holden, Cora M.	2811 Fourteenth st. NW.	Kalusowski, Henry E.	911 I st. NW.
Holden, Raymond T.	802 Sixth st. SW.	Karlsoe, Wilhelm J.	821 Seventeenth st. NW.
Hollifield, Horatio B.	1879 Fifth st. NW.	Keech, Thomas A. R.	424 East Capitol st.
Holt, Warner	322 C st. NW.	Keenan, John F.	United States Pension Bureau.
Hood, Thomas B.	1009 O st. NW.	Kelley, John T., jr.	1909 I st. NW.
Hood, William T., jr.	1702 Nineteenth st. NW.	Kelly, Daniel J.	1635 Nineteenth st. NW.
Hooe, A. Barnes.	520 Thirteenth st. NW.	Kempter, J. Edmund	1230 Thirtieth st. NW.
Hopkins, Charles J.	1130 Twelfth st. NW.	Kennard, G. Howard.	1519 Rhode Island ave. NW.
Hopkins, J. Milton	1821 L st. NW.	Kerr, James	1711 H st. NW.
Horigan, William D.	2426 Pennsylvania ave. NW.	Keyes, Charles W.	1108 Eighth st. NW.
Hoskins, James T.	1300 South Capitol st. SE.	Kilgore, George C.	946 Avenue D, Bayonne, N. J.
Hough, J. Spencer	517 Spruce st.	Kimball, Ephraim G.	1201 Massachusetts ave. NW.
Hotsel, Firman	352 Eleventh st. SE.	Kincaid, Douglas H.	Newbern, N. C.
Houston, Sam.	1411 Tenth st. NW.	King, Albert F. A.	1315 Massachusetts ave. NW.
Howard, Acturus Lee	1126 Ninth st. NW.	King, Ernest F.	905 Massachusetts ave. NW.
Howard, James H.	350 Pomeroy st. NW.	King, William R.	1122 K st. NW.
Howard, Joseph T.	1126 Ninth st. NW.	Kingsman, Richard	711 East Capitol st.
Howard, Joseph T. D.	1126 Ninth st. NW.	Kinnan, William A.	1936 Fifth st. NW.
Howe, Orwin E.	625 E st. NW.	Kirby, Edmund W.	641 Fourth st. NE.
Howell, Arnold G.	224 G st. SW.	Kleinschmidt, Carl H.	3107 N st. NW.
Howland, George T.	815 Vermont ave.	Kleinschmidt, Carl H. A.	
Hughes, William D.	651 H st. NE.	Klemm, John W.	137 L st. NW.
Hunt, Henry J.	59 Myrtle st. NE.	Kline, William J. K.	1332 New York ave.
Hunt, Presley C.	2015 N st. N W.	Knap, Herbert D.	128 Tenth st. NE.
Hunter, Montgomery	1232 Thirty-first st. NW.	Kober, George M.	1819 Q st. NW.
Huntt, Joseph R.	933 Westminister st.	Kolipinski, Louis.	631 I st. NW.
Hutchins, William S.	84 Twelfth st., Wheeling, W. Va.	Koonce, Howard.	222 Indiana ave.
Hutchinson, Mahlon	720 Fourteenth st. NW.	Koonce, Charles K.	600 M st. NW.
Hyatt, Franck	1022 Fourteenth st. NW.	Kramer, Thomas B.	634 A st. SE.
Ingram, Thomas D.	The Eckington, Third and T sts. NE.	Krogstad, Henry.	915 Sixteenth st. NW.
Jack, William A., jr.	1820 Sixteenth st. NW.	Kurtz, John	3142 P st.
Jackson, Albert L.	Brookland, D. C.	La Petra, George H.	1105 G st. NW.
Jackson, Elmer E.	1924 Sixth st. NW.	La Petra, Linnaeus E.	1105 G st. NW.
Jackson, Virgil B.	1120 New York ave.	Lamb, Daniel S.	800 Tenth st. NW.
Jamison, Albion B.	3069 School st. NW.	Lamb, J. Melvin.	906 G st. NW.
Janney, Edgar	No. 12 Iowa circle.	Landers, Thomas	1000 H st. NW.
Jarvis, G. L. Browne.	1510 H st. NW.	Lane, David A.	726 Eighth st. NE.
Jenkins, Ralph	1732 Massachusetts ave. NW.	Laney, Frank P.	1227 Linden st. NE.
Jenner, Norman R.	1731 Twelfth st. NW.	Lang, Charles J.	Hopside, Va.
Johnson, Albert E.	117 B st. SE.	Latimer, Charles H.	Government Hospital for the Insane.
Johnson, Frank G.	1219 Maryland ave. NE.	Latimer, George	1326 New York ave.
Johnson, Henry A.	1334 Eighth st. NW.	Laws, James	1830 I st.
Johnson, Henry L. E.	1402 L st. NW.	Leadley, George W.	24 Grant place.
Johnson, J. Russell	Home for Incurables.	Leatherman, Marshall E.	1415 Q st. NW.
Johnson, John N.	1217 Linden st. NE.	Lee, Adelbert H.	942 E st. NW.
		Lee, George H.	1020 Fifteenth st.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 1207

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Lee, Thacker E	1322 Fourteenth st. NW.	Magee, M. D'Arcy.....	Garfield Memorial Hospital.
Leech, D. Olin	631 Maryland ave NE.	Magnus, Frank D.....	2108 Ost. N.W.
Leech, Frank	1715 Fourteenth st. NW.	Magruder, George L.....	815 Vermont ave.
Lenman, Loueae N	923 F st. NW.	Mallam, Charles E.....	1532 Kingman place.
Lewis, Duff G.....	1449 Rhode Island ave. NW.	Mallan, Thomas F.....	27 B st. SE.
Lewis, Samuel E.....	1418 Fourteenth st. NW.	Maloney, James A.....	1425 R st. NW.
Lieber, Francis	1322 Eighteenth st. NW.	Mannakee, Elisha O.....	1626 Nineteenth st. NW.
Lighthill, August P	543 Boylston st., Boston, Mass.	Manning, William P.....	2002 Fourteenth st. NW.
Lighthill, Edward B.....	579 Broad st., Newark, N. J.	Marble, Ella M. S.....	1112 New York ave. NW.
Lincoln, Nathan S.....	1514 H st. NW.	Marbury, Charles C.....	206 B st. SE.
Linn, Henry Clay	1527 Corcoran st. NW.	Marmion, George H.....	1115 F st. NW.
Little, John J.....	1511 R st. NW.	Marshall, Charles H.....	2712 P st. NW.
Little, Joseph W.....	1313 Fourteenth st. NW.	Marshall, Collins.....	2507 Pennsylvaniaave. NW.
Littlewood, James B.....	415 B st. NE.	Martin, Thomas.....	310 New York ave. NW.
Lochbochler, George J.....	59 K st. NW.	Mason, Robert F.....	Columbia Hospital.
Long, William	2133 K st. NW.	Mason, William C.....	1517 Eighth st. NW.
Lopp, William Henry.....	906 K st. NW.	Masterson, William L.....	NE. corner North Capitol and I sts.
Loring, Francis B.....	1320 K st. NW.	Mathews, Washington.....	1232 New Hampshire ave.
Lothrop, Edwin S.....	807 East Capitol st.	Mattingly, William H.....	720 II st. NE.
Lovejoy, James W. H.....	900 Twelfth st. NW.	Mattson, Charles R.....	509 E st. NW.
Lowe, Horace M.....	927 E st. NE.	Mauss, Richard J.....	1701 Sixth st. NW.
Lozier, Kate E.....	1516 T st. NW.	Maxey, Frederick E.....	1118 Rhode Island ave. NW.
Luce, Charles R.....	215 Second st. SE.	Mayer, Robert D.....	3202 N st. NW.
Lucey, William A.....	18 Massachusetts ave. NE.	Mayfield, Clifton.....	135 Thirtieth st. NW.
Luekett, Llewellyn F.....	1419 Rhode Island ave. NW.	Mazzei, Frank A.....	216 Arthur place.
Luekett, William F.....	1419 Rhode Island ave. NW.	Mead, Theodore.....	808 Twenty-second st. NW.
Lynch, Robert L.....	2419 P st. NW.	Medford, Homer S.....	Columbia Hospital.
Lynd, Ernest	4616 Woodland ave., Philadelphia, Pa.	Menocal, Oscar A.....	1132 Connecticut ave.
McArdle, Thomas E.....	821 Sixteenth st. NW.	Meredith, John Cabell.....	319 East Capitol st.
McBlair, John H.....	3229 I st. NW.	Merriam, Arthur C.....	1201 New Jersey ave.
McConnell, James C.....	669 Third st. NW.	Metzgerott, John H.....	1110 F st. NW.
McCormick, John H.....	1225 L st. NW.	Middleton, Rosier.....	1212 Ninth st. NW.
McCormack, Daniel P.....	1432 Binney st. NW.	Miller, A. Caldwell.....	1528 Ninth st. NW.
McCoy, John C.....	715 Thirteenth st. NW.	Miller, Allen E.....	207 F st. NW.
McGea, Anita N.....	2527 Columbia road.	Miller, Maurice E.....	1339 Fifteenth st. NW.
McGrath, Bernard F.....	Columbia Hospital.	Miller, Stephen C.....	1324 New York ave. NW.
McGuire, James C.....	818 Seventeenth st. NW.	Miller, Thomas.....	1616 Seventh st. NW.
McKag, Joseph F.....	2406 Pennsylvaniaave. NW.	Miller, William L.....	410 K st. NW.
McKeehan, George H.....	2131 E st. NW.	Miner, Francis H.....	153 A st. NE.
McKim, Samuel A. H.....	25 Fifth st. SE.	Mischeux, Paul J.....	913 E st. SW.
McKimmie, Oscar A. M.....	1333 N st. NW.	Mitchell, Andrew B.....	1104 K st. NW.
McLain, John S.....	1320 Nineteenth st. NW.	Mitchell, John W.....	420 D st. SE.
McLaughlin, Thos. N.....	1223 N st. NW.	Moffitt, Melville M.....	127 B st. SE.
McLoughlin, George N.....	907 N st. NW.	Montgomery, Chas. W.....	627 Sixth st. SW.
McManus, George R.....	1818 M st. NW.	Montgomery, Winfield S.....	1912 Eleventh st. NW.
McMillan, Samuel M.....	418 H st. NE.	Moore, Joseph H.....	720 Seventeenth st. NW.
McNally, Valentine.....	Hamilton House, Fourteenth and K sts. NW.	Moore, Mark W.....	123 North Capitol st.
McNeil, Eaton K.....	804 Tenth st. NW.	Moran, John F.....	2426 Pennsylvaniaave. NW.
McPherson, Dorsey M.....	1822 Fifteenth st. NW.	Moran, Pedro De S.....	2011 G st. NW.
McVary, Stephen A.....	411 Second st. SW.	Morgan, Edwin L.....	2315 Pennsylvaniaave. NW.
McDonald, George.....	1012 F st. NE.	Morgan, Francis P.....	1230 Ninth st. NW.
Macdonald, Thomas L.....	1402 Massachusetts ave. NW.	Morgan, James D.....	919 Fifteenth st. NW.
Machinek, Camillo H.....	1110 New York ave. NW.	Morgan, John W.....	1914 Thirteenth st. NW.
Mackall, James McV.....	1207 Thirty-first st. NW.	Morris, George G.....	815 Fourteenth st. NW.
Mackall, Louis.....	3040 Dumbarton ave.	Morris, Lawrence H.....	Glenwood, Howard Co., Md.
Mackall, Louis, jr.....	1203 Thirty-first st.	Morrison, Joseph.....	1733 P st. NW.
MaeWilliams, Alex.....	475 Missouri ave.	Morrison, Mary E.....	625 T st. NW.
Maddox, Albert S.....	1414 K st. NW.	Morse, Edward E.....	1521 I st. NW.
Maddox, William J.....	921 Second st. NE.	Motter, Murray G.....	1017 Fourteenth st. NW.
Maddox, William R.....	2139 Pennsylvaniaave.	Mudd, Joseph A.....	106 Ninth st. SE.
Maddison, Benjamin F.....	417 B st. SE.	Mudd, Thomas D.....	197 Harrison st., Anacostia, D. C.

1208 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Muhlman, Samuel A.	1512 Eighth st. NW.	Pierre, Samuel M.	718 Twenty-third st. NW.
Muncaster, Magruder.	1510 H st. NW.	Pile, Mayne M.	1332 R st. NW.
Muncaster, Stewart B.	1510 H st. NW.	Pinkard, Henry M.	728 Eleventh st. NW.
Mundell, John H.	1022 Eighteenth st. NW.	Polkinhorn, Henry A.	414 Second st. NW.
Munson, Leonard W.	1102 New York ave. NW.	Pool, Benjamin G.	945 Rhode Island ave.
Munson, Reginald.	3101 P st. NW.	Porter, Herbert W.	1315 Nineteenth st. NW.
Murphy, Walter C.	507 Fourth st. NW.	Portman, Adeline E.	722 Eighteenth st. NW.
Myers, Randolph M.	1227 New Hampshire ave.	Pospisiel, Joseph.	1230 Florida ave. NE.
Nagle, Patrick E.	220 Seventh st. NE.	Postley, Charles E.	930 F st. NW.
Napper, Walter P.	1225 Fifteenth st. NW.	Potter, Margaret S.	507 B st. NE.
Nash, Francis S.	The Portland.	Poulton, William E.	303 Four-and-a-half st. NW.
Neale, Richard A.	2025 1st. NW.	Pratt, Alexis L.	129 Eleventh st. NE.
Nelson, J. Edward.	201 North Capitol st.	Prentiss, D. Webster.	1218 Ninth st. NW.
Nesmith, Francis M.	Conduit road, West Washington, D. C.	Prewitt, George T.	127 E st. NW.
Nevitt, James R.	328 Indiana ave.	Price, John F.	607 Sixth st. SW.
Newell, William S.	626 C st. NE.	Price, P. Willis.	602 B st. SE.
Newman, Henry M.	2403 Pennsylvania ave. NW.	Price, William K.	932 Twenty-second st. NW.
Nichols, John B.	Hospital, U. S. Soldiers' Home.	Purdy, Obadiah A.	821 Fourth st. NE.
Nicholson, Leonard S.	727 Eleventh st. NW.	Purman, James J.	1435 Chapin st. NW.
Norcom, Henderson S.	219 Four-and-a-half st. NW.	Purman, Lewis C.	15 Seventh st. SE.
Nordhoff-Jung, Sofie A.	825 Vermont ave.	Purnell, William W.	1516 New Jersey ave. NW.
Norman, Francis A.	131 Maryland ave. NE.	Purvis, Charles V.	1118 Thirteenth st. NW.
Norris, Phebe R.	613 Florida ave. NW.	Pyles, Harry V.	34 Harrison st., Anacostia, D. C.
Norton, Rupert.	1234 Fourteenth st. NW.	Pyles, Richard A.	115 Monroe st., Anacostia, D. C.
Norwood, John C.	1632 Superior st. NW.	Quay, John B.	627 Second st. NE.
Nowlin, Homer E.	940 New York ave.	Quick, Tunis C.	1200 C st. SW.
Ober, George C.	210 B st. SE.	Quivey, William L.	715 Fourteenth st. NW.
O'Brien, Emilie Y.	2255 Fourteenth st. NW.	Radcliffe, Samuel J.	901 Fourteenth st. NW.
O'Connell, Jeffery C.	Trenton (P. O. building), N. J.	Ramsburgh, Jesse.	Providence Hospital.
O'Connor, Charles E.	815 Ninth st. NW.	Rand, William H.	2223 Fifteenth st. NW.
Oertel, Theodore E.	Milledgeville, Ga.	Ransom, Stacy A.	11 New York ave. NW.
Ogden, David M.	1621 P st. NW.	Raul, Jacob F.	319 B st. SE.
O'Reilly, Thomas.	11 M st. NW.	Rautenberg, Arthur C.	510 Fifth st. NW.
Osmun, Little C.	1161 First st. NW.	Rautenberg, Lewis E.	510 Fifth st. NW.
Outlaw, John S.	1415 Crocoran st. NW.	Ravenburg, Rudolph.	1327 W st. NW.
Page, William R.	1014 Massachusetts ave. NW.	Ray, Anthony M.	1841 Fourteenth st. NE.
Park, Francis E.	1714 New Jersey ave. NW.	Raymond, John U.	666 E st. NE.
Parker, Edward M.	1021 Connecticut ave. NW.	Recher, Philip.	Pension Office.
Parker, Joseph M.	1100 Pennsylvania ave. SE.	Reed, Joseph O.	2120 Pennsylvania ave.
Parkinson, Bernard A.	318 Florida ave. NW.	Reeve, Delos N.	604 M st. NW.
Parrott, Richard L.	1916 Eleventh st. NW.	Reeve, Jesse N.	1746 N st. NW.
Parsons, Alfred V.	Takoma Park, D. C.	Reeves, Will H.	819 Massachusetts ave. NE.
Parsons, Mary A.	1216 H st. NW.	Reinherdt, Otto M.	500 Fourth st. SE.
Parsons, Starr.	306 C st. NE.	Reisinger, Emory W.	1209 Thirteenth st. NW.
Patterson, Edwin W.	1103 Thirteenth st. NW.	Rench, Victor B.	27 Grant Place NW.
Payne, Abbott S.	933 Fifteenth st. NW.	Repetti, Frederick F.	64 1st. NW.
Peck, Melvin D. W.	704 F st. NW.	Reville, Laura M.	420 C st. SE.
Pence, Charles W.	140 Massachusetts ave. NE.	Reyburn, Ella F.	2120 F st. NW.
Penrod, Hiram J.	Bunker Hill road, Brookland, D. C.	Reyburn, Eugenia.	2120 F st. NW.
Perkins, Edward D.	944 Virginia ave. SW.	Reyburn, Robert.	2120 F st. NW.
Perkins, Thomas L.	948 Fifteenth st. NW.	Ribble, George T.	714 Thirteenth st. NW.
Perry, George N.	1524 Fourteenth st. NW.	Rich, Frank R.	1008 East Capitol st.
Peter, Armistead.	3044 O st. NW.	Richardson, Charles W.	3236 N st. NW.
Peterson, Bowman H.	717 Fourteenth st. NW.	Richardson, Edward E.	1102 L st. NW.
Petteys, Charles V.	1322 Twelfth st. NW.	Richardson, George H.	400 Seventh st. SW.
Phelps, William P.	301 Thirteenth st. NW.	Richiey, Stephen O.	300 Eleventh st. NE.
Phillips, Francis M.	Laurel, Md.	Richmond, Paul.	732 Seventeenth st. NW.
Phillips, William F. R.	1319 Thirteenth st. NW.	Riegel, William A. L.	26 Grant Place.
Phlegger, John W.	1528 Ninth st. NW.	Riggs, Daniel H.	Riggs House.
Pickford, Edward F.	719 A st. NE.	Riggs, Terrence G.	1410 Eleventh st. NW.

REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA. 1209

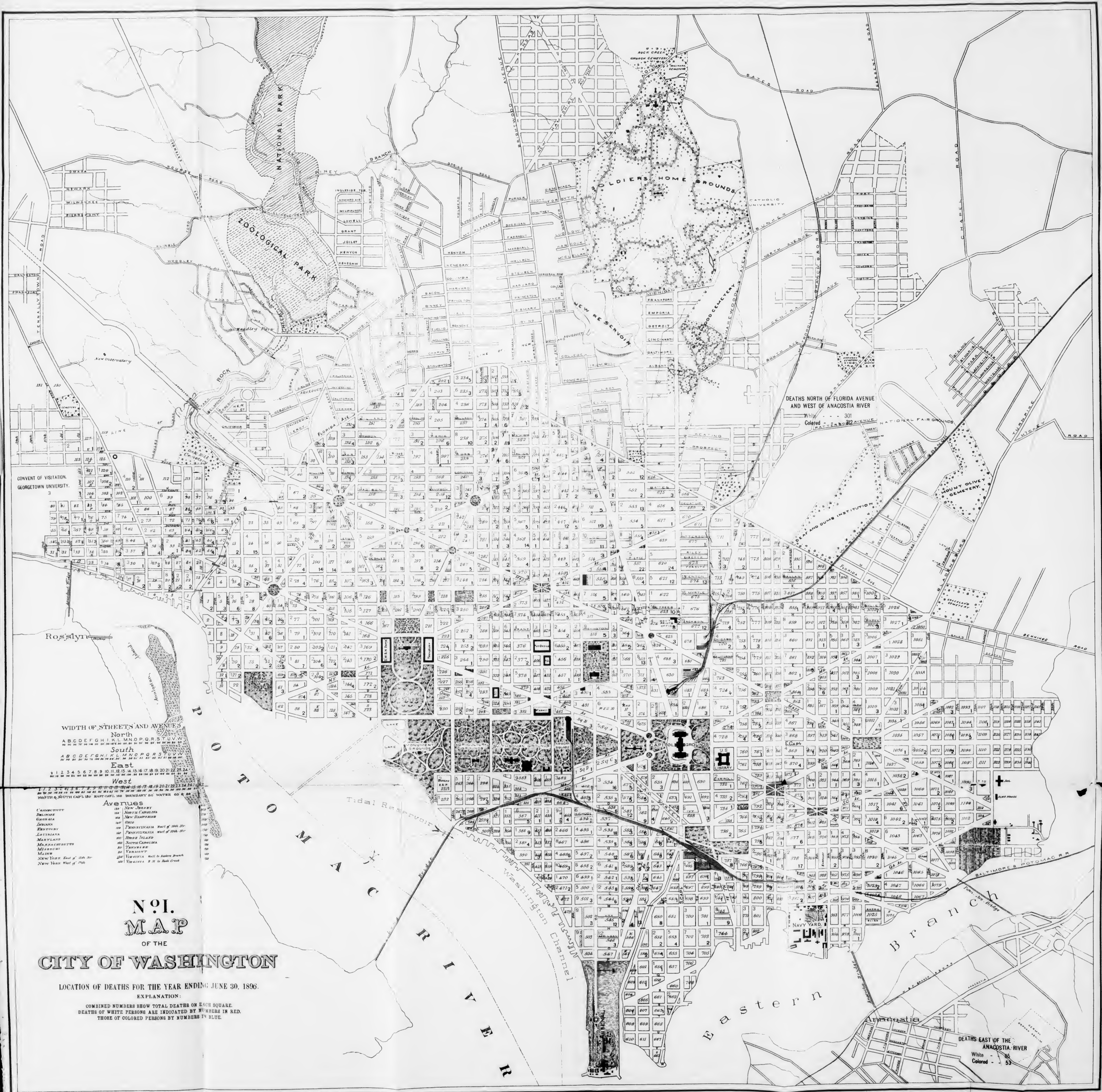
List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Roberts, Robert R.	617 Twelfth st. NE.	Smith, Thomas C.	1133 Twelfth st. NW.
Roberts, William	2500 Pennsylvania ave.	Snyder, Arthur A.	3651 N st. NW.
Robins, William L.	1700 Thirteenth st. NW.	Sohn, Frederick	512 I st. NW.
Robinson, Thomas	1415 P st. NW.	Sonnenschildt, Chas. W.	1307 H st. NW.
Rollings, Harry W.	2220 H st. NW.	Sothoron, Elmer	1921 I st. NW.
Roman, Frederick O.	1501 Eighth st. NW.	Sothoron, James T.	1917 I st. NW.
Rose, Irving C.	1701 H st. NW.	Sothoron, Levin J.	1917 I st. NW.
Roush, Alva S.	1103 Eighth st. NW.	Southworth, Richmond J.	1230 Thirty-sixth st. NW.
Rouland, John A.	600 Sixth st. NW.		1330 New York ave. NW.
Roy, Philip S.	North Capitol and L sts. NW.	Sowers, Zachariah T.	1634 Sixteenth st. NW.
Ruffin, Sterling	1023 Vermont ave.		1015 Sixteenth st. NW.
Russell, Howard C.	1021 Connecticut ave.	Spackman, Mary D.	12 Fourth st. SE.
Rutherford, Jesse B.	1115 Rhode Island ave.	Sprigg, William M.	12 Fourth st. SE.
Ryan, Harvey E.	415 G st. NW.	Squire, Linus T.	514 Sixth st. SW.
Saffold, James P.	924 E st. NW.	Squire, Susanna J.	Riggs House.
St. Clair, Francis A.	1525 Fourteenth st. NW.	Stafford, John J.	124 Fourteenth st. NW.
St. Clair, Francis O.	1428 Rhode Island ave. NW.	Staples, Aubrey H.	1425 Rhode Island ave. NW.
Samson, George C.	2423 Pennsylvania ave. NW.	Stearns, John S.	1425 Rhode Island ave. NW.
Savage, Linnæus S.	Denning, D. C.	Stearns, Solomon S.	Nichols ave., Anacostia, D. C.
Sawyer, John F.	1115 Seventh st. NW.		224 D st. NW.
Schaeffer, Edward M.	825 Fourteenth st. NW.	Stevens, Henry C.	1605 Third st. NW.
Schelsolm, Otto W.	535 Eleventh st. SE.	Stewart, Charles C.	1500 Twentieth st.
Scholl, Joseph	615 D st. NW.	Stewart, William A.	613 Florida ave. NW.
Schricker, Walter F.	401 Seventh st. NW.	Stone, Charles G.	1449 Rhode Island ave. NW.
Scott, Edward D.	1220 T st. NW.	Stone, Isaac S.	1308 Rhode Island ave. NW.
Scott, James F.	1138 Connecticut ave.		1345 F st. NW.
Scott, William K.	Anacostia, D. C.	Storch, August B.	142 E st. NE.
Seibert, Edward G.	24 Grant Place.	Story, James J.	1328 Maryland ave. NE.
Sellhausen, Ernest A.	640 G st. NW.	Stoutenburgh, John A.	1326 New York ave. NW.
Seltzer, Henry H.	445 Fifth st. NE.	Stowell, Charles H.	1326 New York ave. NW.
Sessford, Joseph S. F.	1012 New Hampshire ave.	Street, Daniel B.	1102 Ninth st. NW.
Seward, J. Perry	113 W. Eighty-fifth st., New York City.	Street, Harlow R.	602 E st. NE.
Sewell, Charles A.	1133 Twentieth st. NW.	Strickler, Melchior B.	51 East Capitol st.
Shadd, Furmann J.	901 R st. NW.	Strobel, Mary L.	2522 st. NW.
Shade, Nevin B.	1232 Fourteenth st. NW.	Stuart, Albert R.	7 Dupont circle.
Shands, Aurelius R.	1305 H st. NW.	Stuart, James.	1226 Fourteenth st. NW.
Shaw, John W.	1433 Rhode Island ave.	Suddarth, James L.	821 North Capitol st.
Shearer, Juliet G.	1216 H st. NW.	Sudler, Thomas.	206 Elm st. NW.
Shekell, Abraham B.	1529 Thirty-second st. NW.	Sullivan, Welbie L.	720 Sixth st. NE.
Shelley, Albert	Sligo, Montgomery County, Md.	Summy, Benn W.	920 Nineteenth st. NW.
Shepard, Jackson B.	1613 Madison st. NW.	Suter, Henderson.	3050 N st. NW.
Shimer, Reuben L.	900 Pennsylvania ave. SE.	Suter, W. Given.	821 North Capitol st.
Shirley, John J.	3300 O st.	Sutliff, Milo H.	1940 Fifth st. NW.
Shively, Joseph W.	1008 Massachusetts ave. NE.	Swartwout, Frank A.	240 Ninth st. SW.
Shoulters, George H.	1007 G st. NW.	Swain, Oliver A. T.	321 E st. NE.
Shoup, Jesse	117 Maryland ave. NE.	Swett, Fred K.	1109 I st. NE.
Shrader, Houston D.	804 Ninth st. NW.	Swormstedt, Lyman B.	1455 Fourteenth st. NW.
Shute, Daniel K.	1120 New York ave. NW.	Tancil, Arthur W.	2111 Pennsylvania ave. NW.
Sillers, Robert F.	313 H st. NW.	Tarkington, Joseph A.	419 Second st. NW.
Simmmons, Sherod S.	2230 Sixth st. NW.	Taylor, Alfred H.	485 H st. SW.
Simpson, Edward P.	719 Ninth st. NE.	Taylor, William H.	2232 Sixth st. NW.
Simpson, John C.	Government Hospital for the Insane.	Test, Frederick C.	1218 Eleventh st. NW.
Slattery, John J.	252 Eleventh st. SE.	Thomas, Ada R.	1400 L st. NW.
Slaymaker, Edmund W.	Tennallytown, D. C.	Thomas, Carrie H.	2226 Sixth st. NW.
Smart, Benjamin H.	124 Sixth st. NW.	Thomas, John D.	The Calro.
Smith, George W.	120 Seventh st. SE.	Thompson, Edgar D.	631 East Capitol st.
Smith, Hugh M.	1248 New Jersey ave. NW.	Thompson, Henry P. P.	1714 L st. NW.
Smith, Julia E.	1160 M st. NW.	Thompson, J. Ford.	804 Seventeenth st. NW.
Smith, Leon J.	3230 N st. NW.	Thompson, Millard F.	484 Maryland ave. SW.
Smith, Louis P.	Mertz Building, Eleventh and F sts. NW.	Thompson, Wesley D.	1501 Sixth st. NW.
Smith, Percy G.	1511 U st. NW.	Thonssen, William J. R.	459 M st. NW.
Smith, Peter M.	Emergency Hospital.	Tignor, William L.	324 G st. SW.
		Thompkins, Edmund L.	1134 Connecticut ave.

1210 REPORT OF COMMISSIONERS OF DISTRICT OF COLUMBIA.

List of physicians licensed to practice in the District of Columbia, January 2, 1897—Continued.

Name.	Address.	Name.	Address.
Tompkins, George J.	Rawley Springs, Va.	Wertenbaker, Clark I.	415 Second st. NE.
Toner, John E.	Government Hospital for the Insane.	West, Charles I.	602 K st. NW.
Trudgian, Josiah B.	534 Third st. NE.	West, George W.	1102 Fourteenth st. NW.
Tubman, James R.	1222 Eleventh st. NW.	West, John H.	237 Second st. NW.
Tucker, William P.	1629 Fourteenth st. NW.	West, William E.	Emergency Hospital.
Turner, Molyneaux	2325 L st. NW.	Westlake, John A.	913 New York ave. NW.
Tyler, Abbie C.	1126 Twelfth st. NW.	Wetmore, William O.	310 Ninth st. NE.
Tyler, Robert B.	Freedmen's Hospital.	Whitney, Charles F.	705 Ninth st. NE.
Tyler, William A.	Cozad, Nebr.	Whittington, Thomas A.	451 M st. NW.
Upham, William C.	Langdon, D. C.	Wiber, David E.	1210 F st. NW.
Upshaw, Thomas L.	1319 L st. NW.	Wilder, James R.	441 B st. SE.
Vale, Frank P.	1324 L st. NW.	Wilkinson, Alfred D.	455 Massachusetts ave. NW.
Van Rensselaer, John	2 Thomas circle.	Williams, David H.	Freedman's Hospital.
Vincent, Thomas N.	1221 N st. NW.	Williams, Frank H.	1519 K st. NW.
Von Ezdorf, Rudolph H.	Columbia Hospital.	Williams, J. Buxton, jr.	Brookland, D. C.
Wagner, Henry G.	1120 Twelfth st. NE.	Williston, Edward D.	1831 Fourteenth st. NW.
Wagner, William F.	Fifth and L sts. NW.	Wilmer, William H.	1330 New York ave. NW.
Walker, Allen.	Woodburn, Terra Cotta, D. C.	Wilson, Anne A.	1451 Rhode Island ave. NW.
Walls, George.	919 New York ave. NW.	Wilson, Lewes D.	316 B st. SE.
Walsh, John E.	2 Sixth st. NE.	Winter, Eugene C. C.	815 Four-and-a-half st. SW.
Walsh, Ralph	1504 H st. NW.	Winter, John T.	719 Mount Vernon sq.
Walter, John	1010 F st. NW.	Wolfe, Edwin P.	915 1st. NW.
Walter, Leroy D.	1443 G st. NE.	Wolhaupter, David P.	1316 Twelfth st. NW.
Walter, William F.	487 H st. SW.	Wood, George W.	1410 Thirty-fifth st. NW.
Ward, Samuel A.	1132 Twenty-second st. NW.	Woodman, Francis J.	634 A st. NE.
Ward, William	1919 H st. NW.	Woodson, Lawrence C.	204 G st. NW.
Warfield, William A.	Freedman's Hospital.	Woodward, H. Wells	1114 New York ave. NW.
Waring, James H. N.	1932 Eleventh st. NW.	Woodward, William C.	508 I st. NW.
Warman, William H. H.	939 T st. NW.	Wooster, Mary L.	1433 L st. NW.
Warren, George W.	1212 H st. NE.	Wooster, Walter M.	1433 L st. NW.
Washburn, William S.	1223 M st. NW.	Wright, George H.	Takoma Park, D. C.
Washington, Richard	828 Twelfth st. NW.	Wright, Wilbur L.	451 M st. NW.
Watkins, Edgar W.	1107 Sixth st. NW.	Wurdemann, Harry V.	805 Grand ave., Mil- waukee, Wis.
Watkins, Samuel E.	1119 O st. NW.	Yarnall, John H.	3120 N st. NW.
Watkins, Victor E.	1510 Sixteenth st. NW.	Yarrow, Henry C.	814 Seventeenth st. NW.
Watson, James A.	201 Monroe st., Ana- costa, D. C.	Young, Glendie B.	1433 Corcoran st. NW.
Watts, Samuel R.	1343 V st. NW.	Young, James T.	1336 New York ave. NW.
Weaver, Clarence A.	1614 Q st. NW.	Young, Parke G.	1317 Eighth st. NW.
Webb, Daniel A.	Garfield Memorial Hospital.	Young, Samuel V.	700 Fourteenth st. NW.
Webb, Edwin D.	519 Third st. NW.	Yount, Clarence E.	803 H st. NW.
Webb, Frank J.	1407 Twenty-eighth st. NW., or 2907 Eight st. NW.	Zaremba, Marian A.	414 Sixth st. NW.
Wellington, John R.	1335 N st. NW.	Zimmerman, Charles St. V.	Room 10, Mount Ver- non Flats.
Wells, Charles A.	Hyattsville, Md.		
Wells, Walter A.	1101 Fourteenth st. NW.		
Werber, Gustavus E.	1119 J st. NW.		
Werner, Philip P.	608 Massachusetts ave. NE.		



WIDTH OF STREETS AND AVENUES
North
ABCDEFGHIJKLMNPOQRSTUVWXYZ
South
ABCDEFGHIJKLMNPOQRSTUVWXYZ
East
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
West
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

- Avenues
- 1st New York St.
 - 2nd New York St.
 - 3rd New York St.
 - 4th New York St.
 - 5th New York St.
 - 6th New York St.
 - 7th New York St.
 - 8th New York St.
 - 9th New York St.
 - 10th New York St.
 - 11th New York St.
 - 12th New York St.
 - 13th New York St.
 - 14th New York St.
 - 15th New York St.
 - 16th New York St.
 - 17th New York St.
 - 18th New York St.
 - 19th New York St.
 - 20th New York St.
 - 21st New York St.
 - 22nd New York St.
 - 23rd New York St.
 - 24th New York St.
 - 25th New York St.

N^o 1. MAP OF THE CITY OF WASHINGTON

LOCATION OF DEATHS FOR THE YEAR ENDING JUNE 30, 1896.
EXPLANATION:
COMBINED NUMBERS SHOW TOTAL DEATHS ON EACH SQUARE.
DEATHS OF WHITE PERSONS ARE INDICATED BY NUMBERS IN RED.
THOSE OF COLORED PERSONS BY NUMBERS IN BLUE.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 NORTH & SOUTH CAP'L 150' EAST CAP'L 180' BOUNDARY 80' WATER 60' & 64'

Avenues

CONNECTICUT

DELAWARE

GEORGIA

INDIANA

KENTUCKY

LOUISIANA

MARYLAND

MASSACHUSETTS

MISSOURI

MAINE

NEW YORK East of 5th St

NEW YORK West of 17th

130 NEW JERSEY

140 NORTH CAROLINA

150 NEW HAMPSHIRE

160 OHIO

170 PENNSYLVANIA East of 10th St

180 PENNSYLVANIA West of 17th St

190 RHODE ISLAND

200 SOUTH CAROLINA

210 TENNESSEE

220 VERMONT

230 VIRGINIA Rail to Eastern Branch

240 VIRGINIA R R to Falls Creek

Nº II.

MAP

OF THE

CITY OF WASHI

SHOWING LOCATION OF FATAL CASES OF ZYM
 FOR THE YEAR ENDING JUNE 30, 1

EXPLANATION.

♀ TYPHOID FEVER

* MALARIAL FEVE

WIDTH OF STREETS AND AVENUES

North
A B C D E F G H I J K L M N O P Q R S T U V W
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

South
A B C D E F G H I J K L M N O P Q R S T U V W
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

East
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

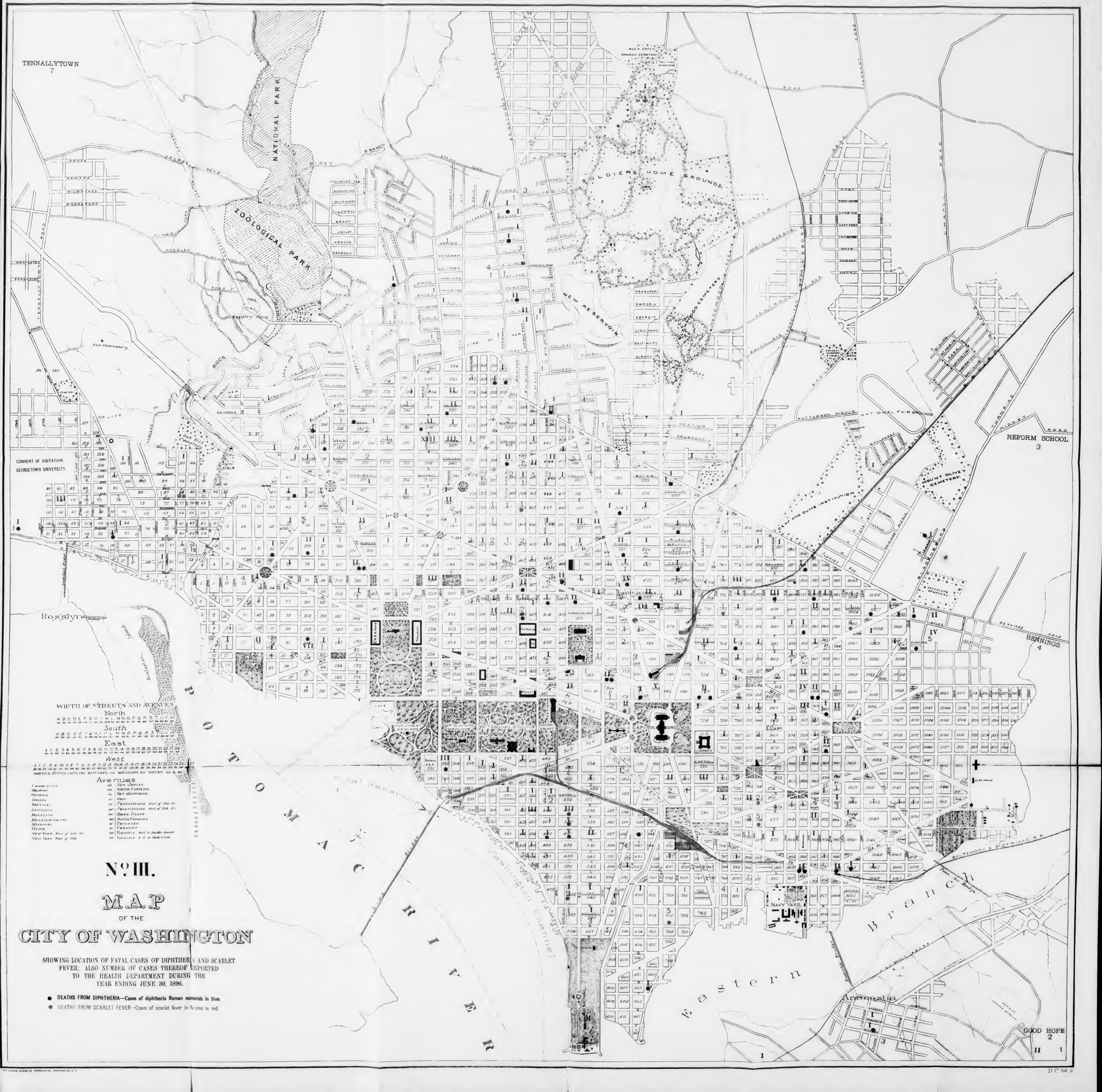
West
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

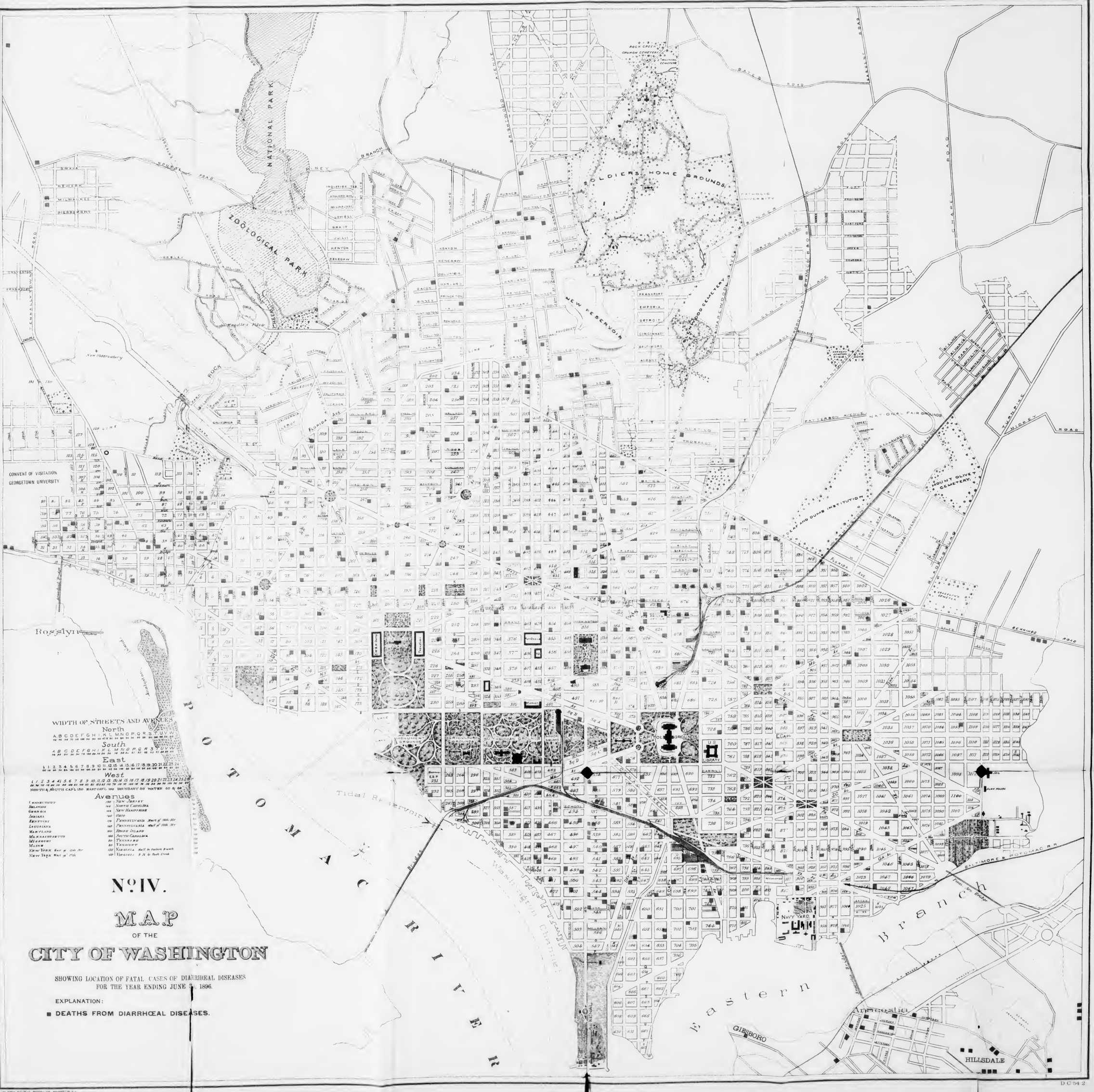
Avenues
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

N^o III. MAP OF THE CITY OF WASHINGTON

SHOWING LOCATION OF FATAL CASES OF DIPHTHERIA AND SCARLET FEVER; ALSO NUMBER OF CASES THEREOF REPORTED TO THE HEALTH DEPARTMENT DURING THE YEAR ENDING JUNE 30, 1896.

- DEATHS FROM DIPHTHERIA—Cases of diphtheria Roman numerals in blue.
- DEATHS FROM SCARLET FEVER—Cases of scarlet fever in figures in red.





No. IV.

MAP

OF THE

CITY OF WASHINGTON

SHOWING LOCATION OF FATAL CASES OF DIARRHOEAL DISEASES
FOR THE YEAR ENDING JUNE 30, 1896.

EXPLANATION:

■ DEATHS FROM DIARRHOEAL DISEASES.

WIDTH OF STREETS AND AVENUES
North
ABCDEFGHIJKLMNPO
South
ABCDEFGHIJKLMNPO
East
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
West
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
Avenues
1st New York St.
2nd North Carolina St.
3rd New Hampshire St.
4th Ohio St.
5th Pennsylvania St.
6th Maryland St.
7th Massachusetts St.
8th Vermont St.
9th New Jersey St.
10th New York St.
11th New Jersey St.
12th New York St.
13th New Jersey St.
14th New York St.
15th New Jersey St.
16th New York St.
17th New Jersey St.
18th New York St.
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21st New Jersey St.
22nd New York St.
23rd New Jersey St.
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25th New Jersey St.
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27th New Jersey St.
28th New York St.
29th New Jersey St.
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87th New Jersey St.
88th New York St.
89th New Jersey St.
90th New York St.
91st New Jersey St.
92nd New York St.
93rd New Jersey St.
94th New York St.
95th New Jersey St.
96th New York St.
97th New Jersey St.
98th New York St.
99th New Jersey St.
100th New York St.



WIDTH OF STREETS AND AVENUES

North
ABCDEFGHIJKLMNPOQRSTUVWXYZ
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

South
ABCDEFGHIJKLMNPOQRSTUVWXYZ
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

East
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

West
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

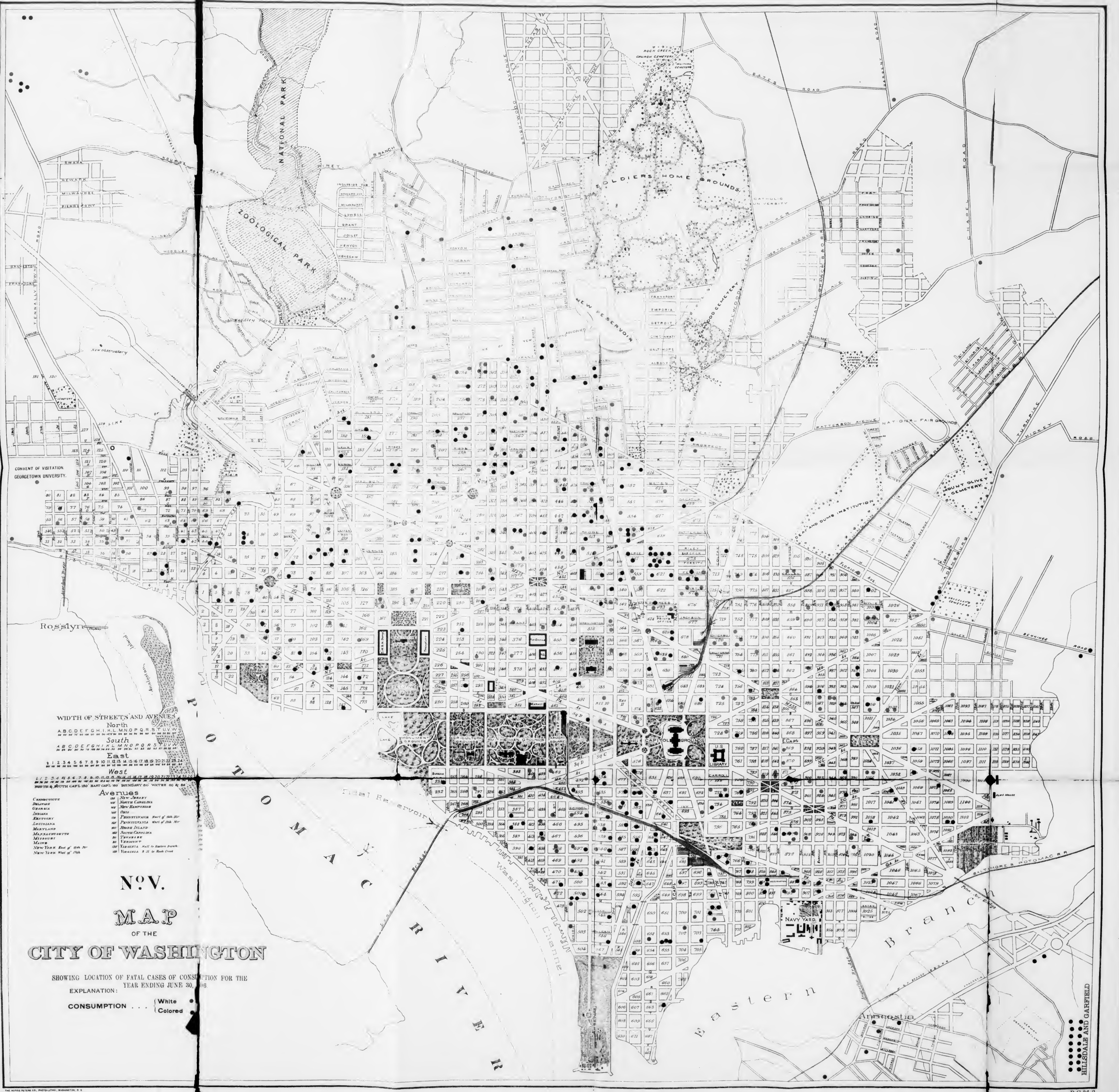
Avenues
100 New Jersey
101 North Carolina
102 New Hampshire
103 Ohio
104 Pennsylvania West of 10th St.
105 Rhode Island
106 North Carolina
107 Tennessee
108 Maryland
109 New York East of 10th St.
110 New York West of 10th St.

N.O.V.
MAP
OF THE
CITY OF WASHINGTON

SHOWING LOCATION OF FATAL CASES OF CONSUMPTION FOR THE
YEAR ENDING JUNE 30, 1906.

EXPLANATION:
CONSUMPTION . . . (White) Colored

HILLSDALE AND GARFIELD



No. V.

MAP
OF THE

CITY OF WASHINGTON

SHOWING LOCATION OF FATAL CASES OF CONSUMPTION FOR THE
YEAR ENDING JUNE 30, 1916

EXPLANATION:

CONSUMPTION . . . White
Colored

HILLSDALE AND GARFIELD



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